					DEPARTMENT						AMENI	FO DED REPOR	RM 3	
		AF	PPLICATION FO	OR PERM	IIT TO DRILL					1. WELL NAME and N		921-36H1	CS	
2. TYPE C	F WORK	DRILL NEW WELL	REENTER	P&A WELL	L DEEPEN	WELL (	)			3. FIELD OR WILDCA	<b>T</b> NATURAL	.BUTTES		
4. TYPE O	F WELL				thane Well: NO					5. UNIT or COMMUNI	TIZATION	AGREEM	ENT NAM	1E
6. NAME	OF OPERATOR									7. OPERATOR PHONE		0.0545		
8. ADDRE	SS OF OPERAT		KERR-MCGEE OIL		<u> </u>					9. OPERATOR E-MAI				
P.O. Box 173779, Denver, CO, 80217  10. MINERAL LEASE NUMBER  11. MINERAL OWNERSHIP										julie.ja 12. SURFACE OWNER		anadarko	.com	
FEDERAL, INDIAN, OR STATE   FEDERAL   INDIAN   STATE   FEDERAL   STATE   STATE   FEDERAL   STATE   STATE									EE 🔵					
13. NAME	OF SURFACE	OWNER (if box 12	= 'fee')							14. SURFACE OWNE	R PHONE	(if box 12	= 'fee')	
15. ADDR	15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')  16. SURFACE OWNER E-MAIL (if box 12 = 'fee')													
	N ALLOTTEE O	R TRIBE NAME			NTEND TO COMM		RODUCTION	FROM	и	19. SLANT				
(IT BOX 12	2 = 'INDIAN')			YES	S (Submit C	ommingli	ng Applicatio	n) N	NO 🔵	VERTICAL DI	RECTION	AL 📵 H	HORIZON	TAL 🔵
20. LOC	ATION OF WELL	-		FOOTAG	ES	QTR	R-QTR	S	SECTION	TOWNSHIP	R/	ANGE	МЕ	RIDIAN
LOCATIO	ON AT SURFACE		68	1 FNL 71	5 FEL	NE	ENE		36	9.0 S	2	1.0 E		S
Top of U	Ippermost Prod	lucing Zone	173	9 FNL 49	93 FEL	SE	ENE		36	6 9.0 S		21.0 E		S
At Total	Depth		173	9 FNL 49	93 FEL	SE	ENE		36	9.0 S		21.0 E		S
21. COUN	ITY	UINTAH		22. DI	ISTANCE TO NEA	REST LEA 493		et)		23. NUMBER OF ACR	ES IN DR		IT	
					ISTANCE TO NEA lied For Drilling		eted)	POOL	-	26. PROPOSED DEPT	<b>H</b> : 10609	TVD: 104	39	
27. ELEV	ATION - GROUN	ID LEVEL		28. Bo	OND NUMBER					29. SOURCE OF DRIL WATER RIGHTS APPR			PPI ICAR	ı F
		4924				22013	542			WATER RIGHTS ALT I	43-8		III LIOAD	<u></u>
Ctuina	Hala Siza	Cooling Sino	Langth	Wainb4	Hole, Casing					Comont		Sacks	Viola	Mainht
String Surf	Hole Size	Casing Size 8.625	0 - 2470	Weight 28.0	J-55 LT		Max Mu		-	Cement Type V			Yield 1.15	Weight 15.8
										Class G		180 270	1.15	15.8
Prod	7.875	4.5	0 - 10609	11.6	HCP-110	LT&C	13.	0	Prei	mium Lite High Stre	ength	310	3.38	12.0
										50/50 Poz		1560	1.31	14.3
					A	TTACHN	MENTS							
	VEF	RIFY THE FOLLO	WING ARE AT	<b>FACHED</b>	IN ACCORDAN	ICE WITH	H THE UTA	H OIL	L AND GAS	CONSERVATION G	SENERA	L RULES		
<b>✓</b> w	ELL PLAT OR M	AP PREPARED BY	LICENSED SURVE	YOR OR E	ENGINEER		COMP	PLETE	DRILLING PI	_AN				
AF	FIDAVIT OF STA	ATUS OF SURFACE	OWNER AGREEM	MENT (IF FI	EE SURFACE)		FORM	5. IF (	OPERATOR IS	S OTHER THAN THE L	EASE OW	NER		
<b>I</b> DII	DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)  TOPOGRAPHICAL MAP													
NAME D	anielle Piernot			TITLE R	Regulatory Analys	t			PHONE 720	929-6156				
SIGNATU	JRE			DATE 1	12/19/2011				EMAIL danie	lle.piernot@anadarko.	com			
	ber assigned 047522710			APPRO	VAL				Bol	Ryll				
									Perm	it Manager				

Morgan State 921-36A Pad Drilling Program
1 of 9

### Kerr-McGee Oil & Gas Onshore. L.P.

### **MORGAN STATE 921-36H1CS**

Surface: 681 FNL / 715 FEL NENE BHL: 1739 FNL / 493 FEL SENE

Section 36 T9S R21E

Unitah County, Utah Mineral Lease: ML-22265

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

### 1. & 2.a <u>Estimated Tops of Important Geologic Markers</u>: <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,221'	
Birds Nest	1,565'	Water
Mahogany	2,023'	Water
Wasatch	4,505'	Gas
Mesaverde	7,174'	Gas
Sego	9,333'	Gas
Castlegate	9,402'	Gas
MN5	9,839'	Gas
TVD =	10,439'	
TD =	10,609'	

2.c Kerr McGee Oil & Gas Onshore LP (Kerr McGee) will either drill to the the Blackhawk formation, which is part of the Mesaverde formation, or the Wasatch/Mesaverde formation. If Kerr McGee drills to the Blackhawk formation (part of the Mesaverde formation), please refer to MN5 as the bottom formation. The attached Blackhawk Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the deeper formation.

If Kerr McGee drills to the Wasatch/Mesaverde formation please refer to Sego as the bottom formation. The attached Wasatch/Mesaverde Drilling Program includes Total Vertical Depth, Total Depth, and appropriate casing and cement programs for the depths the Wasatch/Mesaverde formations are found.

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

API Well Number: 43047522710000

Morgan State 921-36A Pad

Drilling Program
2 of 9

### 4. Proposed Casing & Cementing Program:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 5. <u>Drilling Fluids Program</u>:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 6. <u>Evaluation Program</u>:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program

### 7. <u>Abnormal Conditions</u>:

### 7.a Blackhawk (Part of Mesaverde Formation) Target Formation

Maximum anticipated bottom hole pressure calculated at 10439' TVD, approximately equals 6,890 psi (0.66 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,641 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

### 7.b Wasach/Mesaverde Target Formation

Maximum anticipated bottom hole pressure calculated at 9333' TVD, approximately equals 5,973 psi (0.64 psi/ft = actual bottomhole gradient)

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,907 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

### 8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

### 9. <u>Variances:</u>

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

Morgan State 921-36A Pad

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

**Drilling Program** 

Morgan State 921-36A Pad Drilling Program 4 of 9

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

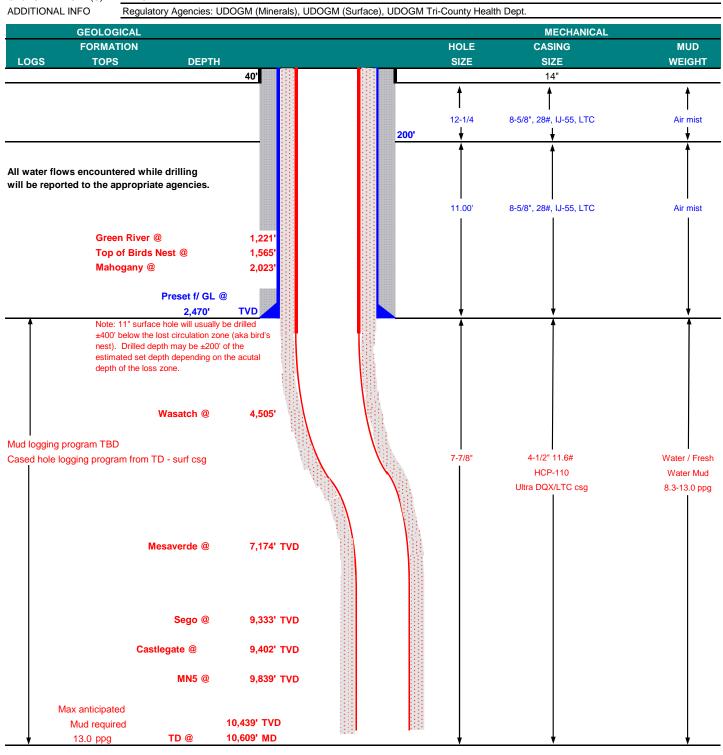
### 10. Other Information:

Please refer to the attached Blackhawk Drilling Program and the Wasatch/Mesaverde Drilling Program



# KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL &	GAS ONSHORE	LP		DATE	December	19, 2011		
WELL NAME MO	RGAN STATI	E 921-36H1C	S	TD	10,439'	TVD	10,609' MD		
FIELD Natural Butte	COUNTY	COUNTY Uintah STATE Uta		h	FINISHED ELEVATION		4,923'		
SURFACE LOCATION	NENE	681 FNL	715 FEL	Sec 36	T 9S	R 21E			
	Latitude:	39.997902	Longitude	e: -109.49	2516		NAD 27		
BTM HOLE LOCATION	SENE	1739 FNL	493 FEL	Sec 36	T 9S	R 21E			
	Latitude:	39.994997	Longitude	e: -109.49	1728		NAD 27		
OBJECTIVE ZONE(S)	BLACKHAWK								
ADDITIONAL INFO Regulatory Agencies: LIDOGM (Minerals), LIDOGM (Surface), LIDOGM Tri-County Health Dept									





### KERR-McGEE OIL & GAS ONSHORE LP BLACKHAWK DRILLING PROGRAM

CASING PROGRAM	<u>1</u>	DESIGN FACTORS									
										LTC	DQX
	SIZE	INT	ERVA	7	WT.	GR.	CPLG.	BURST	COLLAPSE	TE	NSION
CONDUCTOR	14"	(	0-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,470	28.00	IJ-55	LTC	2.18	1.63	5.75	N/A
								10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0	to	5,000	11.60	HCP-110	DQX	1.19	1.23		3.72
	4-1/2"	5,000	to	10 609'	11 60	HCP-110	LTC	1.19	1.23	5.35	

**Surface Casing:** 

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	•	YIELD			
SURFACE LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80		1.15			
Option 1		+ 0.25 pps flocele								
TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80		1.15			
		+ 2% CaCl + 0.25 pps flocele								
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized								
Option 2 LEAD	1,970'	65/35 Poz + 6% Gel + 10 pps gilsonite	180	35%	11.00		3.82			
		+ 0.25 pps Flocele + 3% salt BWOW								
TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80		1.15			
		+ 0.25 pps flocele								
TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15			
PRODUCTION LEAD	3,999'	Premium Lite II +0.25 pps	310	35%	12.00		3.38			
		celloflake + 5 pps gilsonite + 10% gel								
		+ 0.5% extender								
TAIL	6,610'	50/50 Poz/G + 10% salt + 2% gel	1,560	35%	14.30		1.31			
		+ 0.1% R-3								

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe						
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.						

### **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys wil	ll be taken	at 1,000'	minimum	intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

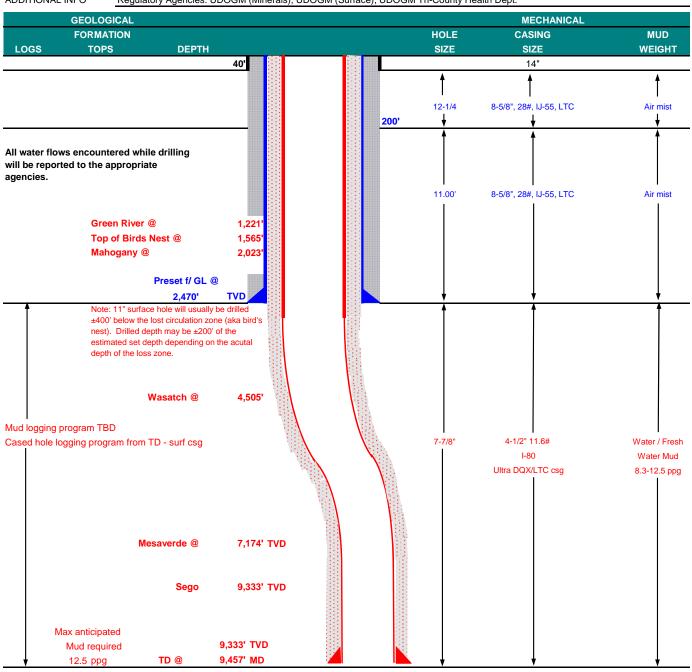
	wost rigs have PVT System for mud	monitoring. If no PVT is available, visual monitoring will be utilized.		
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel	_	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young	_	_

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained



# KERR-McGEE OIL & GAS ONSHORE LP WASATCH/MESAVERDE DRILLING PROGRAM

COMPANY NAME KER	R-McGEE OIL 8	GAS ONSHOR	E LP		DATE	December 19, 2011				
WELL NAME MO	RGAN STAT	E 921-36H1C	S	TD	9,333'	TVD	9,457' MD			
FIELD Natural Buttes	S	COUNTY	Uintah S	STATE Utah		FINI	SHED ELEVATION_	4,923'		
SURFACE LOCATION	NENE	681 FNL	715 FEL	Sec 36	T 9S	R 21E				
	Latitude:	39.997902	Longitude:	-109.492	2516		NAD 27			
BTM HOLE LOCATION	SENE	1739 FNL	493 FEL	Sec 36	T 9S	R 21E				
	Latitude:	39.994997	Longitude:	-109.491	1728		NAD 27			
OBJECTIVE ZONE(S) Wasatch/Mesaverde										
ADDITIONAL INFO	Regulatory Ag	encies: UDOGM	(Minerals), UDO	OGM (Surfac	ce), UDC	GM Tri-Count	y Health Dept.			





### **KERR-McGEE OIL & GAS ONSHORE LP**

WASATCH/MESAVERDE DRILLING PROGRAM

CASING PROGRAM	<u>/</u>	DESIGN FACTORS									
										LTC	DQX
	SIZE	INT	ERVAI	Ц	WT.	GR.	CPLG.	BURST	COLLAPSE	TE	NSION
CONDUCTOR	14"	C	)-40'								
								3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0	to	2,470	28.00	IJ-55	LTC	2.18	1.63	5.75	N/A
								7,780	6,350		267,035
PRODUCTION	4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	1.05		3.01
								7,780	6,350	223,000	
	4-1/2"	5,000	to	9,457'	11.60	I-80	LTC	1.11	1.05	5.33	

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

### **CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE LEA	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1		+ 0.25 pps flocele				
TOP OUT CMT (6 job	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
		+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to	surface, opt	ion 2 will be	utilized	
Option 2 LEA	1,970'	65/35 Poz + 6% Gel + 10 pps gilsonite	180	35%	11.00	3.82
		+ 0.25 pps Flocele + 3% salt BWOW				
TA	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
		+ 0.25 pps flocele				
TOP OUT CM	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION LEA	3,997'	Premium Lite II +0.25 pps	310	35%	12.00	3.38
		celloflake + 5 pps gilsonite + 10% gel				
		+ 0.5% extender				
TA	5,460'	50/50 Poz/G + 10% salt + 2% gel	1,290	35%	14.30	1.31
		+ 0.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

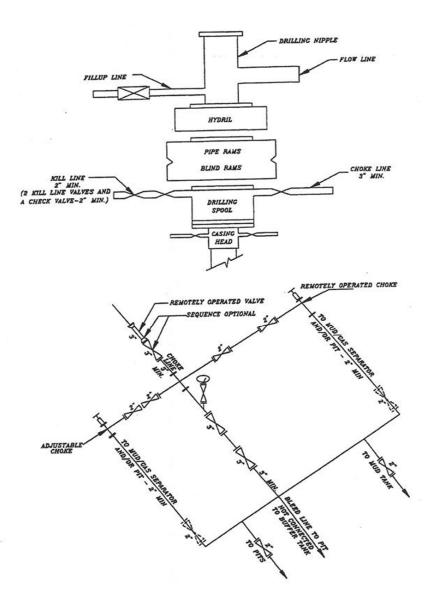
Surveys will be taken at 1,000' minimum interval	s.
--	----

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

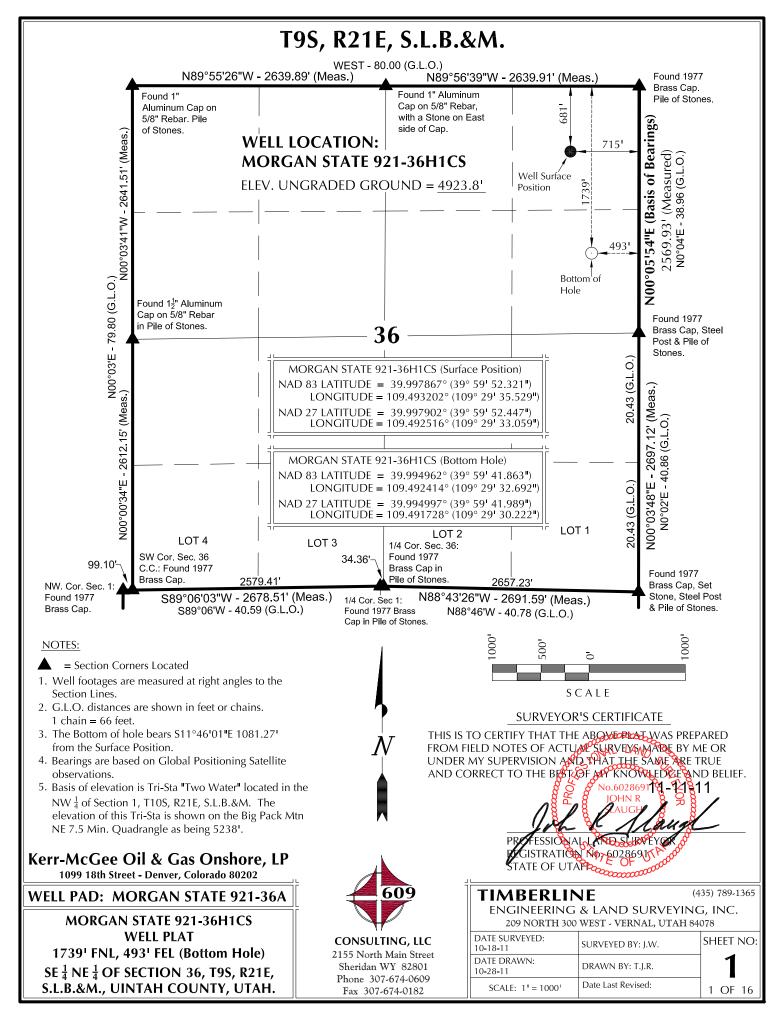
	Wood ngo nave i v i bystem for mat	Thorntoning. If no i vi is available, visual morntoning will be u	uiized.	
DRILLING	ENGINEER:		DATE:	
		Nick Spence / Danny Showers / Chad Loesel	•	
DRILLING	SUPERINTENDENT:		DATE:	
		Kenny Gathings / Lovel Young		

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A
MORGAN STATE 921-36H1CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



SURFACE POSITION BOTTOM HOLE													
WELL NAME		D83		NAD27		F0071 277		NAE		ICITUS.	NAD		FOCT
MORGAN STATE	<b>LATITUDE</b> 39°59'52.321"	109°29'35.529"	39°59'52.4		"33.059	681' FNL	39°59'4	T <b>UDE</b> 41.863"		NGITUDE 29'32.692"	<b>LATITUDE</b> 39°59'41.989"		
921-36H1CS	39.997867°	109.493202°	39.997902	2° 109.492		715' FEL	39.9949		1.00 -	192414°	39.994997°	109.491728°	493' FEL
MORGAN STATE 921-36H1BS	39°59'52.341"		1	1.00 =0	'32.933"		39°59'4			29'32.686"	39°59'45.259"		
MORGAN STATE	39.997872° 39°59'52.361"	109.493167° 109°29'35.277"	39.997907 39°59'52.4		2481° '32.807"	706' FEL 677' FNL	39.9958 39°59'4			192413° 29'32.680"	39.995905° 39°59'48.529"	109.491727° 109°29'30.210"	493' FEL 1077' FNL
921-36A4CS	39.997878°	109 29 33.277 109.493133°	39.997913	3° 109.492		696' FEL	39.996	779°	109.4	192411°	39.996814°	109.491725°	4931 FEL
MORGAN STATE 921-36A4BS	39°59'52.381" 39.997884°	109°29'35.151" 109.493098°	39°59'52.5 39.997919		'32.681" 2411°	675' FNL 686' FEL	39°59'5 39.9976			29'32.674" 192409°	39°59'51.800" 39.997722°	109°29'30.204" 109.491723°	746' FNL 493' FEL
MORGAN STATE 8-36	39°59'52.623" 39.997951°	109°29'35.217"	39°59'52 39.997986	749" 109°29	132.747"	650' FNL			1.03	.52.105		1.031.1317.23	133 122
0.50	39.99/931	109.493116°		1.001.00		691' FEL From Surface	Position	to Bott	om Hc	ole			
WELL NAME	NORTH	EAST WE	LL NAME	NORTH	EAS		NAME	NOR		EAST	WELL NAM	NORTH	EAST
MORGAN STATE 921-36H1CS	-1058.51		RGAN STATE 36H1BS	-729.6	211.	3 MORGA 921-36A	N STATE 4CS	<b>-</b> 400	0.6'	202.11	MORGAN STA 921-36A4BS	-71.7 <sup>1</sup>	192.81
			NORCE: W.	MORCA STATE 9.336H1	STATE 921.350, 301.36, 37.36411	© EXIS	S.L. GLC OBS	B.&M. OBAL F SERVA	WHICPOSIT	CH IS TAK TONING : S TO BEA	6, T9S, R21E, KEN FROM SATELLITE R N00°05'54"		
Kerr-Mc		S C A L E	hore, L	.09 P	32.0 - S11°46'01"E - 100'e)	-/ ///				<b>21-36A4</b> 3.30833° 2	25.0'		dottom of Hole
Kerr-Mc(	Gee Oil &	S C A L E	hore, L	.P	10 - 110°46'01"E - 10°6'01"E -	Az=168.23306° - 516°09'01 Hove		t. W.H	.=348	3.30833° 2	25.0' - \$69°36'58'	B	
Kerr-McC 1099 13	Gee Oil & 8th Street - De	S C A L E	hore, L 80202 921-36	.P	15 - S11°46'01"E - Hole)	Az		t. W.H	.=348	3.30833° 2	S <sub>69</sub> 36' <sub>58'</sub>	B H	Hole 35) 789-1365
Kerr-McC 1099 13 WELL PAI	Gee Oil & 8th Street - De D - MORO	S C A L E	hore, L 80202 921-36,	.P	15 - S11°46'01"E - Hole)	Az=168.23306° - 516°09'01 Hove		t. W.H	.=348	BERLI INEERIN	S.0'  S69°36'58'  INE G & LAND	B	35) 789-1365 G, INC.
Kerr-McC 1099 13 WELL PAI	Gee Oil & 8th Street - De D - MORO	S C A L E  REAL STATE REFERENCE PETATE 921-36H	hore, L 80202 921-362 LAT 1CS,	.P	517°46'01"E - 100'e)	Az=168:23306° (To Bottom Hore)  Az=168:23306° (To Bottom Hore)	to Exist / PAS 80 to MAZ=163.84972 - 159.57	t. W.H	.=348 	BERLI INEERIN	AZ=110 S69°36'58° G & LAND	B H SURVEYING RNAL, UTAH 840	35) 789-1365 G, INC. 078
Kerr-McC 1099 13 WELL PAI WELLS	Gee Oil & 8th Street - De D - MORO L PAD INTE G- MORGAN STATION STATIO	S C A L E	hore, L 80202 921-362 LAT 1CS,	.P	5. 17°46'01"E - 10°6')  ONS  CONS	Az=168.23306° - 516°09'01 Hove	to / \$26° A5' 55' K. Hole   A2=163.84972°   163.84972°	TI E DATI 10-13	=348 	BERLI INEERIN 9 NORTH 3 VEYED:	S.0'  S69°36'58'  INE G & LAND	B H SURVEYING RNAL, UTAH 840	35) 789-1365 G, INC.
Kerr-McC 1099 13 WELL PAI WELLS M	Gee Oil & 8th Street - De D - MORO L PAD INTE G- MORGAN STATIORGAN	S C A L E  REAL STATE REFERENCE PETATE 921-36H RE 921-36H1BS	hore, L 80202 921-362 LAT 1CS,	.P	CONSI 2155 No. Sherida	A7=168:23306° (To Bottom Horoth Main Stream WY 8280:	to Exist / PZE 25 18 HOLE   84972°   10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TI DATI	=348   Solution	BERLI INEERIN 9 NORTH 3 VEYED:	AZ=110 S69°36'58° G & LAND	(42 SURVEYING RNAL, UTAH 84C 3Y: J.W.	35) 789-1365 G, INC. 078
Kerr-McC 1099 1: WELL PAI WELLS MM M LOCA	Gee Oil & 8th Street - De D - MORC L PAD INTE 6 - MORGAN STAT ORGAN STAT ORGAN STAT	S C A L E  REAL STATE  REFERENCE PE  STATE 921-36H  STE 921-36H  STE 921-364CS	hore, L 80202 921-36, LAT 1CS, ,	.P	CONSI 2155 No. Sherida Phone	Az=168:23306° (To Bottom Hore)  Ay=168:23306° (To Bottom Hore)  Outling, LLe orth Main Street	to Exist / PZE 25 18 HOLE   84972°   10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TI E DATI 10-1: DATI 10-2:	=348 IMI ENGI 209 E SURV 8-11 E DRAN 8-11	BERLI INEERIN 9 NORTH 3 VEYED:	S69°36′58′4  SURVEYED B	SURVEYING RNAL, UTAH 840 BY: J.W. T.J.R.	35) 789-1365 G, INC. 078

EXISTING GRADE @ CENTER OF WELL PAD = 4923.81 FINISHED GRADE ELEVATION = 4923.21 **CUT SLOPES = 1:1** FILL SLOPES = 1.5:1 **TOTAL WELL PAD AREA = 3.06 ACRES TOTAL DISTURBANCE AREA = 5.73 ACRES SHRINKAGE FACTOR = 1.10 SWELL FACTOR = 1.00** 

### Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

### **WELL PAD - MORGAN STATE 921-36A**

WELL PAD - LOCATION LAYOUT **MORGAN STATE 921-36H1CS, MORGAN STATE 921-36H1BS, MORGAN STATE 921-36A4CS & MORGAN STATE 921-36A4BS** LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH



2155 North Main Street

Sheridan, WY 82801

Phone 307-674-0609 Fax 307-674-0182

### **WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 24.148 C.Y. TOTAL FILL FOR WELL PAD = 2,849 C.Y. TOPSOIL @ 6" DEPTH = 1.765 C.Y.EXCESS MATERIAL = 21,299 C.Y.

### **RESERVE PIT QUANTITIES**

**TOTAL CUT FOR RESERVE PIT** +/- 5,970 C.Y. RESERVE PIT CAPACITY (2' OF FREEBOARD) +/- 22,430 BARRELS

**TIMBERLINE** 

(435) 789-1365 ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

### **EXISTING WELL LOCATION** PROPOSED WELL LOCATION PROPOSED BOTTOM HOLE LOCATION EXISTING CONTOURS (2' INTERVAL) PROPOSED CONTOURS (21 INTERVAL) — PPL — PROPOSED PIPELINE — EPL — EXISTING PIPELINE $60^{\circ}$ HORIZONTAL = 1" = 60"

**SCALE:** 1"=60" DATE: 11/11/11 SHEET NO: b

2' CONTOURS

6 OF 16

**REVISED:** 

EXISTING GRADE @ CENTER OF WELL PAD = 4923.8'
FINISHED GRADE ELEVATION = 4923.2'
CUT SLOPES = 1:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.06 ACRES
TOTAL DISTURBANCE AREA = 5.73 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

### Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# WELL PAD - MORGAN STATE 921-36A WELL PAD - LOCATION LAYOUT MORGAN STATE 921-36H1CS

MORGAN STATE 921-36H1CS, MORGAN STATE 921-36H1BS, MORGAN STATE 921-36A4CS & MORGAN STATE 921-36A4BS LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH



2155 North Main Street

Sheridan, WY 82801

Phone 307-674-0609 Fax 307-674-0182

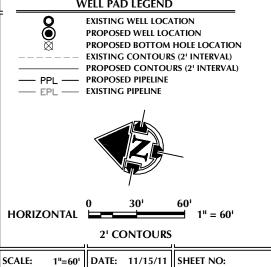
### WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 24,148 C.Y. TOTAL FILL FOR WELL PAD = 2,849 C.Y. TOPSOIL @ 6" DEPTH = 1,765 C.Y. EXCESS MATERIAL = 21,299 C.Y.

### **COMPLETIONS PIT QUANTITIES**

TOTAL CUT FOR COMPLETIONS PIT +/- 4,000 C.Y.
COMPLETIONS PIT CAPACITY
(2' OF FREEBOARD)
+/- 14,630 BARRELS

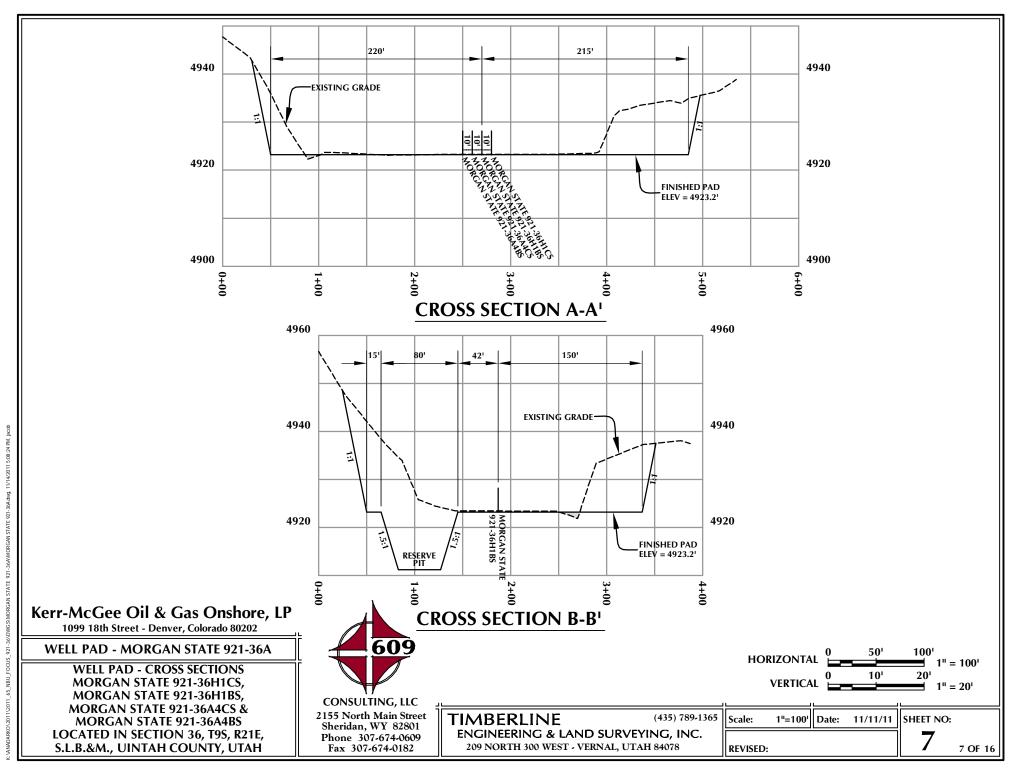
TIMBERLINE (435) 789-1365 ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

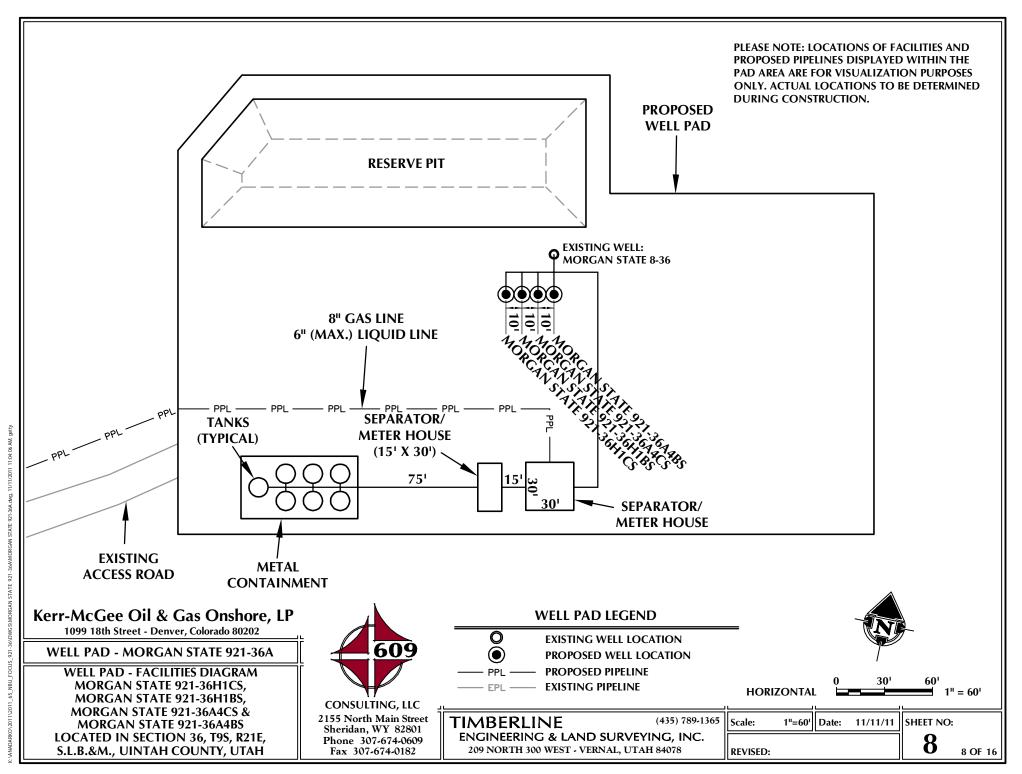


6B 6B OF 16

RECEIVED: December 19, 2011

**REVISED:** 





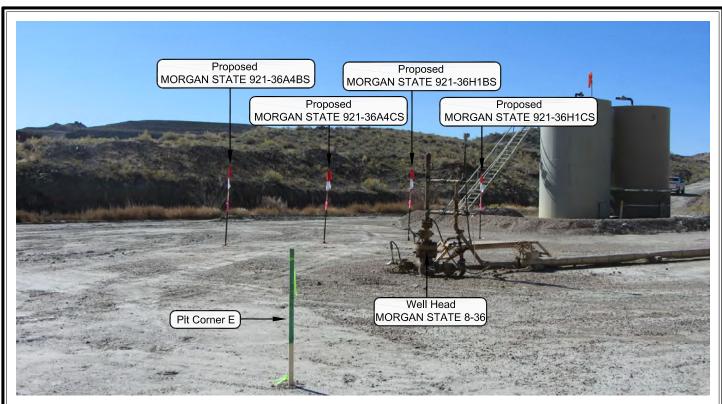


PHOTO VIEW: FROM PIT CORNER E TO LOCATION STAKE

**CAMERA ANGLE: SOUTHWESTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: NORTHEASTERLY** 

### Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

### **WELL PAD - MORGAN STATE 921-36A**

**LOCATION PHOTOS MORGAN STATE 921-36H1CS,** MORGAN STATE 921-36H1BS, MORGAN STATE 921-36A4CS & **MORGAN STATE 921-36A4BS** LOCATED IN SECTION 36, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

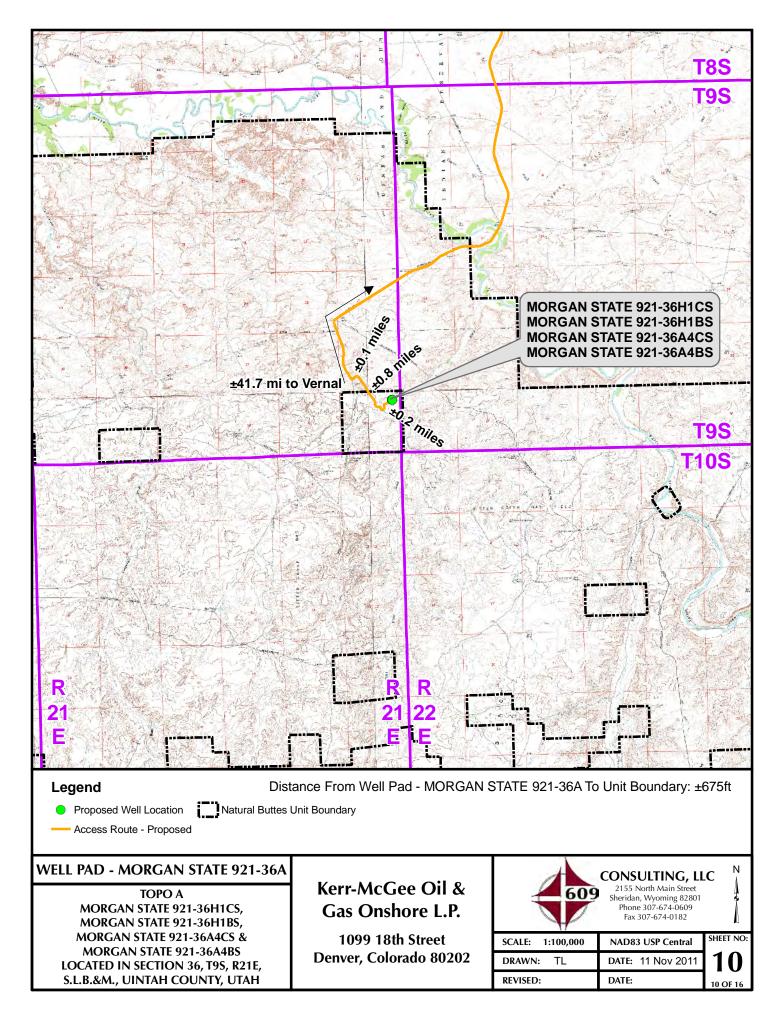
	T		١	M	В	E	R	L		1	E
ш		-							 _	_	

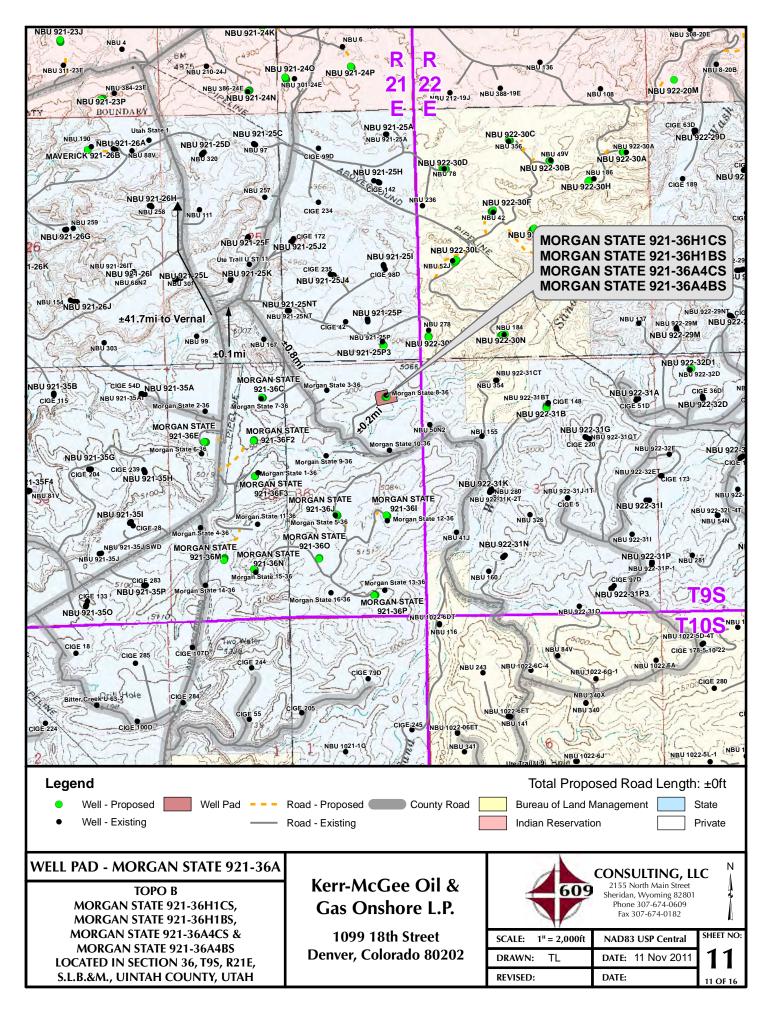
(435) 789-1365

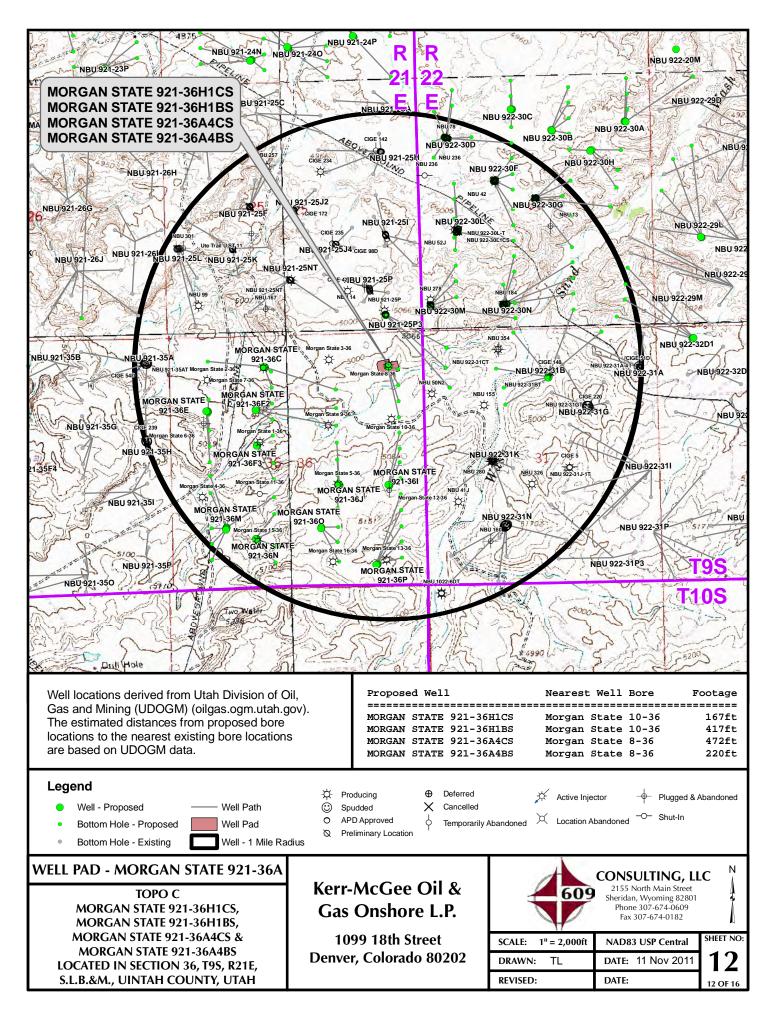
9 OF 16

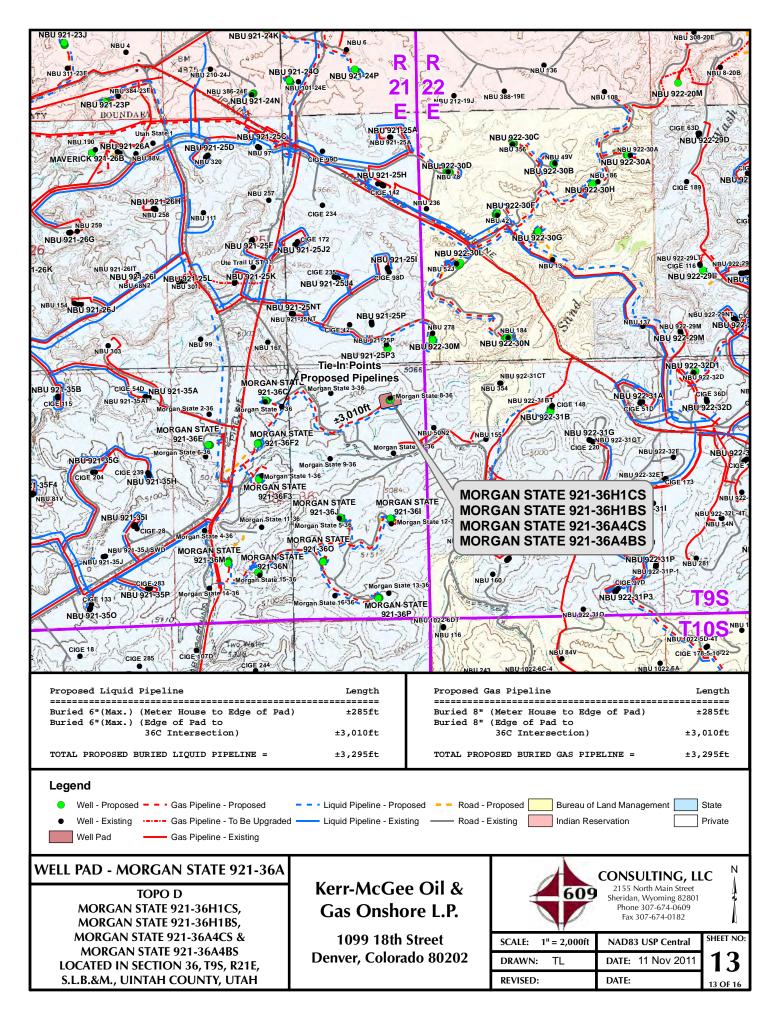
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

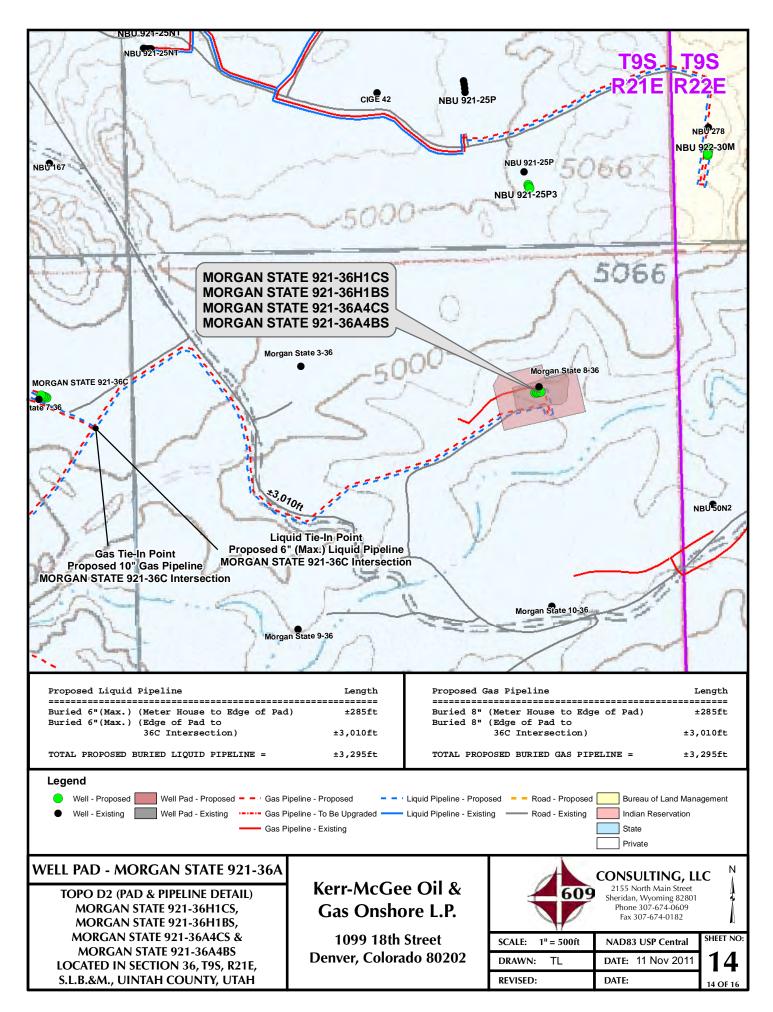
DATE PHOTOS TAKEN: 10-18-11	PHOTOS TAKEN BY: J.W.	SHEET NO:
DATE DRAWN: 10-28-11	DRAWN BY: T.J.R.	9
Date Last Revised:		9 OF 16

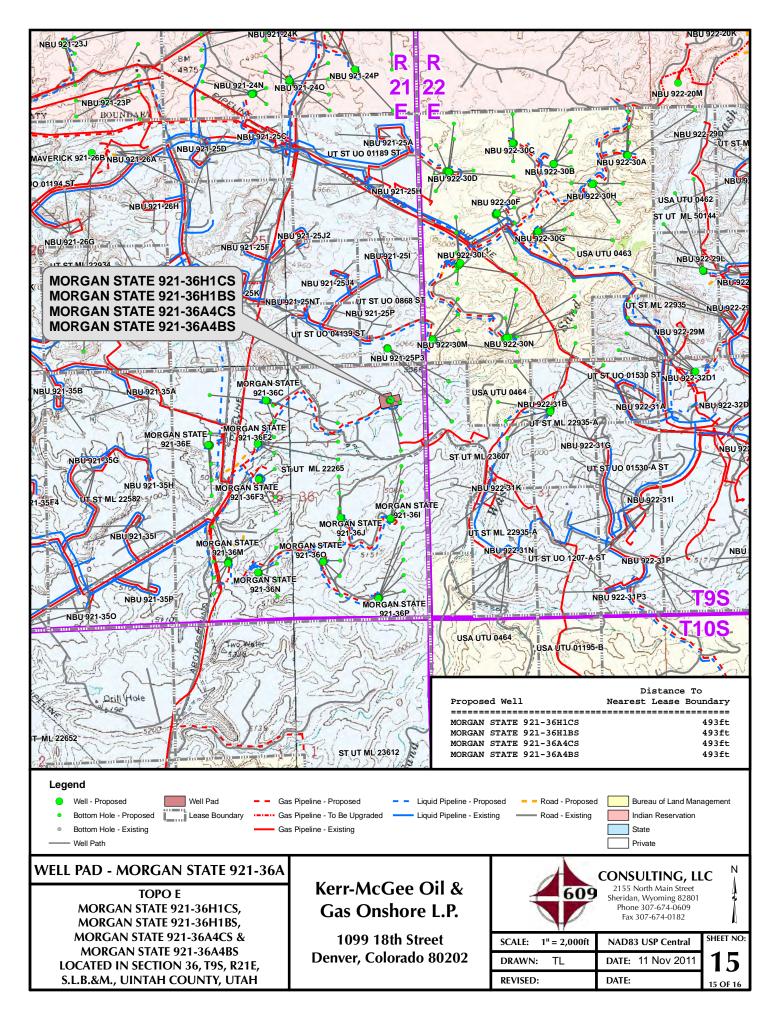












### Kerr-McGee Oil & Gas Onshore, LP WELL PAD – MORGAN STATE 921-36A WELLS – MORGAN STATE 921-36H1CS, MORGAN STATE 921-36H1BS, MORGAN STATE 921-36A4CS & MORGAN STATE 921-36A4BS Section 36, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 18.2 miles to a Class D County Road to the northeast. Exit left and proceed in a northeasterly direction along the Class D County Road approximately 0.1 miles to a second Class D County Road approximately 0.8 miles to a service road to the north. Exit left and proceed in a northerly, then northeasterly direction along the service road approximately 0.2 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 42.8 miles in a southerly direction.

**SHEET 16 OF 16** 

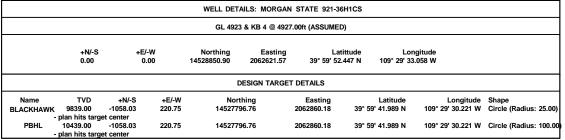
API Well Number: 43047 Brogertt OUTAB - UTM (feet), NAD27, Zone 12N

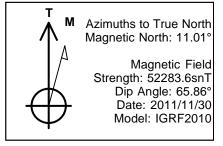
Site: MORGAN STATE 921-36A PAD Well: MORGAN STATE 921-36H1CS

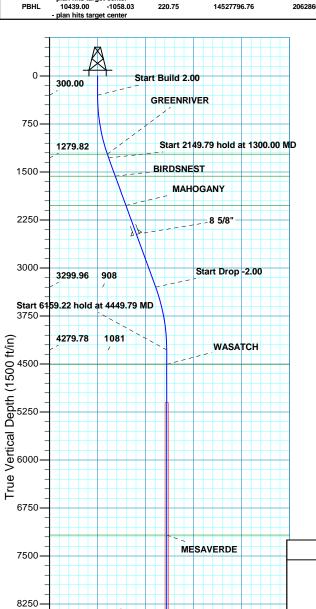
Wellbore: OH

Design: PLAN #1 SURFACE









SEGO

CASTLEGATE

1081

750

9000

9750

10500

11250

10439.00

BLACKHAWK

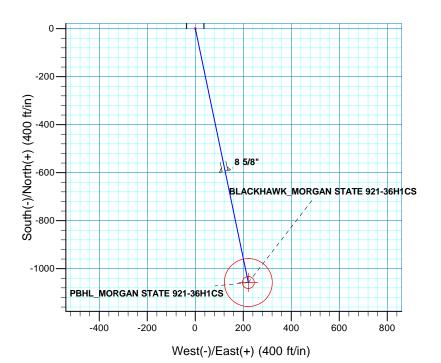
TD at 10609.02

1500

Vertical Section at 168.21° (1500 ft/in)

Scientific Drilling

Rocky Mountain Operations



Ŧ														
					SECT	TION DETAI	ILS							
	MD	Taiget												
l	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	rarget				
l	300.00	0.00	0.00	300.00	0.00	0.00	0.0	0.00	0.00					
l	1300.00	20.00	168.21	1279.82	-169.13	35.29	2.0	168.21	172.77					
l	3449.79	20.00	168.21	3299.96	-888.90	185.46	0.0	0.00	908.04					
l	4449.79	0.00	0.00	4279.78	-1058.03	220.75	2.0	180.00	1080.81					
l	10609.02	0.00	0.00	10439.00	-1058.03	220.75	0.0	0.00	1080.81	PBHL_MOR	GAN STATE 921-36H1CS	3		
Ļ	_													
l							L		FORM	MATION TOP	DETAILS			
l	PROJECT DETAILS:	UTAH -	UTM (fe	et), NAD2	7, Zone 12h	1		TVDPatl	h	MDPath	Formation			
Γ	Condetta Sustama II :							1221.0	0	1237.65	GREENRIVER			
ı	Geodetic System: University				JS Survey I	-eet)		1565.0		1603.49	BIRDSNEST			
١	Datum: NAD 19 Ellipsoid: Clarke		JOON CC	JNU3)				2023.0		2090.88	MAHOGANY			
ı	Ellipsoid: Clarke	1000						4505.0	0	4675.02	WASATCH			

Zone: Zone 12N (114 W to 108 W) Location: SECTION 36 T9S R21E 7174.00 9333.00 7344.02 9503.02 MESAVERDE SEGO System Datum: Mean Sea Level 9402.00 9572.02 CASTLEGATE 9839.00 BLACKHAWK CASING DETAILS

TVD 2473.00 MD 2569.76 Name 8 5/8" 8.625

Plan: PLAN #1 SURFACE (MORGAN STATE 921-36H1CS/OH) Created By: RobertScott Date: 11:39. November 30 2011

RECEIVED:

API Well Number: 43047522710000



### **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD MORGAN STATE 921-36H1CS

OH

Plan: PLAN #1 SURFACE

## **Standard Planning Report**

**30 November, 2011** 



API Well Number: 43047522710000



### SDI Planning Report



EDM5000-RobertS-Local Database: Company:

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD

Well: **MORGAN** 

Wellbore: OH

Project:

Site:

Site

PLAN #1 SURFACE Design:

**Local Co-ordinate Reference:** 

**TVD Reference:** MD Reference: North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36H1CS GL 4923 & KB 4 @ 4927.00ft (ASSUMED) GL 4923 & KB 4 @ 4927.00ft (ASSUMED)

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS) Geo Datum: Zone 12N (114 W to 108 W) Map Zone:

System Datum: Mean Sea Level

MORGAN STATE 921-36A PAD, SECTION 36 T9S R21E

STATE 921-36H1CS

Northing: 14,528,850.91 usft Site Position: Latitude: 39° 59' 52.447 N From: Lat/Long Easting: 2,062,621.57 usft Longitude: 109° 29' 33.058 W **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.97

13.200 in

Well MORGAN STATE 921-36H1CS, 681 FNL 715 FEL

**Well Position** +N/-S 0.00 ft 14,528,850.91 usft Latitude: 39° 59' 52.447 N Northing: +E/-W 0.00 ft Easting: 2,062,621.57 usft Longitude: 109° 29' 33.058 W

0.00 ft Wellhead Elevation: **Ground Level:** 4,923.00 ft **Position Uncertainty** 

Wellbore ОН Field Strength Magnetics **Model Name** Sample Date Declination Dip Angle (nT) (°) (°) IGRF2010 2011/11/30 11.01 65.86 52.284

PLAN #1 SURFACE Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 168.21

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	168.21	1,279.82	-169.13	35.29	2.00	2.00	0.00	168.21	
3,449.79	20.00	168.21	3,299.96	-888.90	185.46	0.00	0.00	0.00	0.00	
4,449.79	0.00	0.00	4,279.78	-1,058.03	220.75	2.00	-2.00	0.00	180.00	
10,609.02	0.00	0.00	10,439.00	-1,058.03	220.75	0.00	0.00	0.00	0.00 PE	BHL_MORGAN ST



Well:

# **SDI**Planning Report



Database: EDM5000-RobertS-Local
Company: US ROCKIES REGION P
Project: UTAH - UTM (feet), NAD2
Site: MORGAN STATE 921-36

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD MORGAN STATE 921-36H1CS

MORGAN STATE 92 OH

Wellbore: OH

Design: PLAN #1 SURFACE

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36H1CS GL 4923 & KB 4 @ 4927.00ft (ASSUMED) GL 4923 & KB 4 @ 4927.00ft (ASSUMED)

True

Design:	PLAN #1 SUR	FACE							
Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
Start Build 2. 400.00	2.00	168.21	399.98	-1.71	0.36	1.75	2.00	2.00	0.00
500.00 600.00 700.00 800.00 900.00	4.00 6.00 8.00 10.00 12.00	168.21 168.21 168.21 168.21 168.21	499.84 599.45 698.70 797.47 895.62	-6.83 -15.36 -27.29 -42.61 -61.28	1.43 3.21 5.69 8.89 12.79	6.98 15.69 27.88 43.52 62.60	2.00 2.00 2.00 2.00 2.00	2.00 2.00 2.00 2.00 2.00	0.00 0.00 0.00 0.00 0.00
1,000.00 1,100.00 1,200.00 1,237.65	14.00 16.00 18.00 18.75	168.21 168.21 168.21 168.21	993.06 1,089.64 1,185.27 1,221.00	-83.30 -108.64 -137.26 -148.88	17.38 22.67 28.64 31.06	85.10 110.98 140.21 152.08	2.00 2.00 2.00 2.00	2.00 2.00 2.00 2.00	0.00 0.00 0.00 0.00
1,300.00 Start 2149 79	20.00 hold at 1300.00	168.21	1,279.82	-169.13	35.29	172.77	2.00	2.00	0.00
1,400.00 1,500.00 1,600.00 1,603.49	20.00 20.00 20.00 20.00 20.00	168.21 168.21 168.21 168.21	1,373.78 1,467.75 1,561.72 1,565.00	-202.61 -236.09 -269.57 -270.74	42.27 49.26 56.24 56.49	206.97 241.17 275.37 276.57	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
1,700.00	20.00	168.21	1,655.69	-303.05	63.23	309.58	0.00	0.00	0.00
1,800.00 1,900.00 2,000.00 2,090.88	20.00 20.00 20.00 20.00	168.21 168.21 168.21 168.21	1,749.66 1,843.63 1,937.60 2,023.00	-336.53 -370.01 -403.49 -433.92	70.21 77.20 84.18 90.53	343.78 377.98 412.18 443.26	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
MAHOGANY			_,,						
2,100.00 2,200.00 2,300.00 2,400.00 2,500.00 2,569.76	20.00 20.00 20.00 20.00 20.00 20.00	168.21 168.21 168.21 168.21 168.21 168.21	2,031.57 2,125.54 2,219.51 2,313.48 2,407.45 2,473.00	-436.97 -470.46 -503.94 -537.42 -570.90 -594.26	91.17 98.16 105.14 112.13 119.11 123.99	446.38 480.59 514.79 548.99 583.19 607.05	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
8 5/8"									
2,600.00 2,700.00 2,800.00 2,900.00 3,000.00	20.00 20.00 20.00 20.00 20.00	168.21 168.21 168.21 168.21 168.21	2,501.42 2,595.39 2,689.35 2,783.32 2,877.29	-604.38 -637.86 -671.34 -704.82 -738.30	126.10 133.08 140.07 147.05 154.04	617.39 651.60 685.80 720.00 754.20	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
3,100.00 3,200.00 3,300.00 3,400.00 3,449.79	20.00 20.00 20.00 20.00 20.00	168.21 168.21 168.21 168.21 168.21	2,971.26 3,065.23 3,159.20 3,253.17 3,299.96	-771.79 -805.27 -838.75 -872.23 -888.90	161.02 168.01 175.00 181.98 185.46	788.40 822.61 856.81 891.01 908.04	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
Start Drop -2.			,						
3,500.00 3,600.00 3,700.00 3,800.00 3,900.00 4,000.00	19.00 17.00 15.00 13.00 11.00	168.21 168.21 168.21 168.21 168.21	3,347.29 3,442.39 3,538.51 3,635.54 3,733.35 3,831.83	-905.30 -935.55 -962.52 -986.19 -1,006.54 -1,023.53	188.88 195.19 200.82 205.76 210.00	924.80 955.69 983.25 1,007.43 1,028.21 1,045.57	2.00 2.00 2.00 2.00 2.00 2.00	-2.00 -2.00 -2.00 -2.00 -2.00 -2.00	0.00 0.00 0.00 0.00 0.00 0.00



# **SDI**Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD MORGAN STATE 921-36H1CS

Wellbore: OH

Project:

Site:

Well:

Design: PLAN #1 SURFACE

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36H1CS GL 4923 & KB 4 @ 4927.00ft (ASSUMED) GL 4923 & KB 4 @ 4927.00ft (ASSUMED)

True

esign:	PLAN #1 SUR	TACE							
lanned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,100.00 4,200.00 4,300.00	7.00 5.00 3.00	168.21 168.21 168.21	3,930.85 4,030.30 4,130.05	-1,037.15 -1,047.37 -1,054.19	216.39 218.52 219.95	1,059.48 1,069.93 1,076.89	2.00 2.00 2.00	-2.00 -2.00 -2.00	0.00 0.00 0.00
4,400.00	1.00	168.21	4,229.99	-1,057.60	220.66	1,080.38	2.00	-2.00	0.00
4,449.79	0.00	0.00	4,279.78	-1,058.03	220.75	1,080.81	2.00	-2.00	0.00
4,500.00	2 hold at 4449.79 0.00	0.00	4,329.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
4,600.00 4,675.02	0.00 0.00	0.00 0.00	4,429.98 4,505.00	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
<b>WASATCH</b> 4,700.00	0.00	0.00	4,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
4,800.00	0.00	0.00	4,629.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
4,900.00 5,000.00	0.00 0.00	0.00 0.00	4,729.98 4,829.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
5,100.00 5,200.00	0.00 0.00	0.00 0.00	4,929.98 5,029.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
5,300.00	0.00	0.00	5,129.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
5,400.00 5,500.00	0.00 0.00	0.00 0.00	5,229.98 5,329.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
5,600.00	0.00	0.00	5,429.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
5,700.00	0.00	0.00	5,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
5,800.00 5,900.00	0.00 0.00	0.00 0.00	5,629.98 5,729.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
6,000.00	0.00	0.00	5,829.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,100.00 6,200.00	0.00 0.00	0.00 0.00	5,929.98 6,029.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
6,300.00	0.00	0.00	6,129.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,400.00	0.00	0.00	6,229.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,500.00	0.00	0.00	6,329.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,600.00	0.00	0.00	6,429.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,700.00	0.00	0.00	6,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,800.00	0.00	0.00	6,629.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
6,900.00 7,000.00	0.00 0.00	0.00 0.00	6,729.98 6,829.98	-1,058.03 -1.058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
7,000.00 7,100.00	0.00	0.00	6,829.98	-1,058.03 -1,058.03	220.75	1,080.81	0.00	0.00	0.00
7,200.00	0.00	0.00	7,029.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
7,300.00 7,344.02	0.00 0.00	0.00 0.00	7,129.98 7,174.00	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
MESAVERDE									
7,400.00 7,500.00 7,600.00	0.00 0.00 0.00	0.00 0.00 0.00	7,229.98 7,329.98 7,429.98	-1,058.03 -1,058.03 -1,058.03	220.75 220.75 220.75	1,080.81 1,080.81 1,080.81	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
7,700.00	0.00	0.00	7,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
7,800.00 7,900.00	0.00 0.00	0.00 0.00	7,629.98 7,729.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
8,000.00 8,100.00	0.00 0.00 0.00	0.00 0.00 0.00	7,729.98 7,829.98 7,929.98	-1,058.03 -1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
8,200.00	0.00	0.00	8,029.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
8,300.00	0.00	0.00	8,129.98 8,229.98	-1,058.03 1,058.03	220.75	1,080.81	0.00	0.00	0.00
8,400.00 8,500.00	0.00 0.00	0.00 0.00	8,229.98 8,329.98	-1,058.03 -1,058.03	220.75 220.75	1,080.81 1,080.81	0.00 0.00	0.00 0.00	0.00 0.00
8,600.00	0.00	0.00	8,429.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
8,700.00	0.00	0.00	8,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00



### **SDI** Planning Report



Database: Company: Project: Site:

Well:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD

MORGAN STATE 921-36A PAD
MORGAN STATE 921-36H1CS

Wellbore: OH

Design: PLAN #1 SURFACE

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well MORGAN STATE 921-36H1CS GL 4923 & KB 4 @ 4927.00ft (ASSUMED) GL 4923 & KB 4 @ 4927.00ft (ASSUMED)

Truo

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.00	0.00	0.00	8,629.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
8,900.00	0.00	0.00	8,729.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,000.00	0.00	0.00	8,829.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,100.00	0.00	0.00	8,929.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,200.00	0.00	0.00	9,029.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,300.00	0.00	0.00	9,129.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,400.00	0.00	0.00	9,229.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,500.00	0.00	0.00	9,329.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,503.02	0.00	0.00	9,333.00	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
SEGO									
9,572.02 CASTLEGA	0.00	0.00	9,402.00	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,600.00	0.00	0.00	9,429.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,700.00	0.00	0.00	9,529.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,800.00	0.00	0.00	9,629.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
9,900.00	0.00	0.00	9,729.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,000.00	0.00	0.00	9,829.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,009.02	0.00	0.00	9,839.00	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
BLACKHAW	K - BLACKHAW	K_MORGAN ST	ATE 921-36H10	cs					
10,100.00	0.00	0.00	9,929.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,200.00	0.00	0.00	10,029.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,300.00	0.00	0.00	10,129.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,400.00	0.00	0.00	10,229.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,500.00	0.00	0.00	10,329.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,600.00	0.00	0.00	10,429.98	-1,058.03	220.75	1,080.81	0.00	0.00	0.00
10,609.02	0.00	0.00	10,439.00	-1,058.03	220.75	1,080.81	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BLACKHAWK_MORGAI - plan hits target cen - Circle (radius 25.00		0.00	9,839.00	-1,058.03	220.75	14,527,796.77	2,062,860.18	39° 59' 41.989 N	109° 29' 30.221 W
PBHL_MORGAN STATE - plan hits target cen - Circle (radius 100.0	ter	0.00	10,439.00	-1,058.03	220.75	14,527,796.77	2,062,860.18	39° 59' 41.989 N	109° 29' 30.221 W

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
	2,569.76	2,473.00	8 5/8"	8.625	11.000

API Well Number: 43047522710000



# **SDI**Planning Report



Database: Company: Project: Site: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N MORGAN STATE 921-36A PAD

Well: MORGAN STATE 921-36A PAD
Well: MORGAN STATE 921-36H1CS

Wellbore: OH

Design: PLAN #1 SURFACE

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MORGAN STATE 921-36H1CS GL 4923 & KB 4 @ 4927.00ft (ASSUMED) GL 4923 & KB 4 @ 4927.00ft (ASSUMED)

True

ions							
	Measured Depth (ft)	Vertical Depth (ft)		Name	Lithology	Dip (°)	Dip Direction (°)
	1,237.65	1,221.00	GREENRIVER				
	1,603.49	1,565.00	BIRDSNEST				
	2,090.88	2,023.00	MAHOGANY				
	4,675.02	4,505.00	WASATCH				
	7,344.02	7,174.00	MESAVERDE				
	9,503.02	9,333.00	SEGO				
	9,572.02	9,402.00	CASTLEGATE				
	10,009.02	9,839.00	BLACKHAWK				

Plan Annotations										
Measured	Measured Vertical		dinates							
Depth	Depth	+N/-S	+E/-W							
(ft)	(ft)	(ft)	(ft)	Comment						
300.00	300.00	0.00	0.00	Start Build 2.00						
1,300.00	1,279.82	-169.13	35.29	Start 2149.79 hold at 1300.00 MD						
3,449.79	3,299.96	-888.90	185.46	Start Drop -2.00						
4,449.79	4,279.78	-1,058.03	220.75	Start 6159.22 hold at 4449.79 MD						
10,609.02	10,439.00	-1,058.03	220.75	TD at 10609.02						

MORGAN STATE 921-36A4BS											
Surface:	675 FNL / 686 FEL	NENE	Lot								
BHL:	746 FNL / 493 FEL	NENE	Lot								
MORGAN STATE 921-36A4CS											
Surface:	677 FNL / 696 FEL	NENE	Lot								
BHL:	1077 FNL / 493 FEL	NENE	Lot								
MORGAN STATE 921-36H1BS											
Surface:	679 FNL / 706 FEL	NENE	Lot								
BHL:	1408 FNL / 493 FEL	SENE	Lot								
MORGAN STATE 921-36H1CS											
Surface:	681 FNL / 715 FEL	NENE	Lot								
BHL:	1739 FNL / 493 FEL	SENE	Lot								

Pad: MORGAN STATE 921-36A PAD

Section 36 T9S R21E Mineral Lease: ML-22265

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

### A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

### B. Planned Access Roads:

No new access road is proposed. (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

### C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the Morgan State 8-36. The Morgan State 8-36 well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of December 5, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

### **Gathering Facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 3,295$ ' and the individual segments are broken up as follows:

 $\pm 285'~(0.05~\text{miles})$  –New 8" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±3,010' (0.6 miles) –New 8" buried gas pipeline from the edge of pad to the 921-36C intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 3,295$ ' and the individual segments are broken up as follows:

±285' (0.05 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±3,010' (0.6 miles) –New 6" buried liquid pipeline from the edge of pad to the 921-36C intersection. Please refer to Topo D2 - Pad and Pipeline Detail.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

### D. <u>Location and Type of Water Supply</u>:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

### E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

### F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Ouray #1 SWD in Sec. 1 T9S R21E NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 33 T9S R21E NBU 921-34L SWD in Sec. 34 T9S R21E

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

Unless otherwise approved, no oil or other oil based drill additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water, biodegradable polymer soap, bentonite clay, and /or non-toxic additives will be used in the system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions, or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be release into the pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternative is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as the hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods. (e.g. solidification)

Any additional pits necessary for subsequent operations, such as temporary flare pits, or workover pits, will contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of the work.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

### G. Ancillary Facilities:

None are anticipated.

#### H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/ egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

#### I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

#### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

#### Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

#### J. Surface/Mineral Ownership:

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

#### L. Other Information:

None

Morgan State 921-36A4BS/ 921-36A4CS/ 921-36H1BS/ 921-36H1CS

#### M. Lessee's or Operators' Representative & Certification:

Danielle Piernot Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6156 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot

December 19, 2011

Date



Kerr-McGee Oil & Gas Onshore LP PO Box 173779 DENVER, CO 80217-3779

December 9, 2011

Ms. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11 Morgan State 921-36H1CS

T9S-R21E

Section 36: NENE (Surface), SENE (Bottom Hole)

Surface: 681' FNL, 715' FEL Bottom Hole: 1739' FNL, 493' FEL

Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

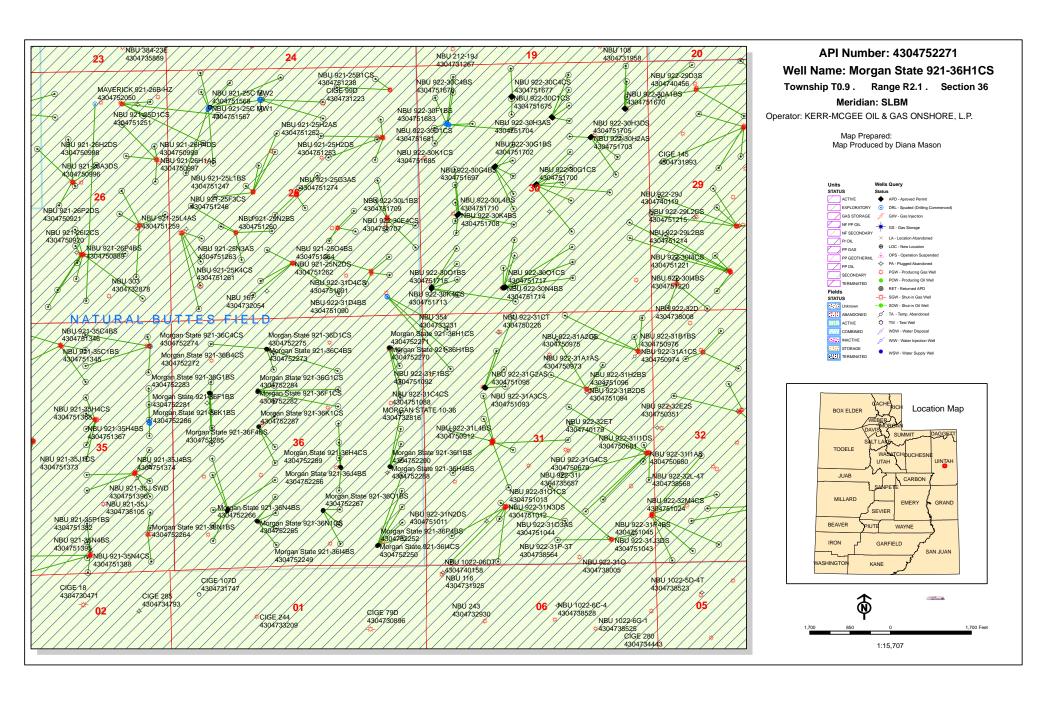
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing roads and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

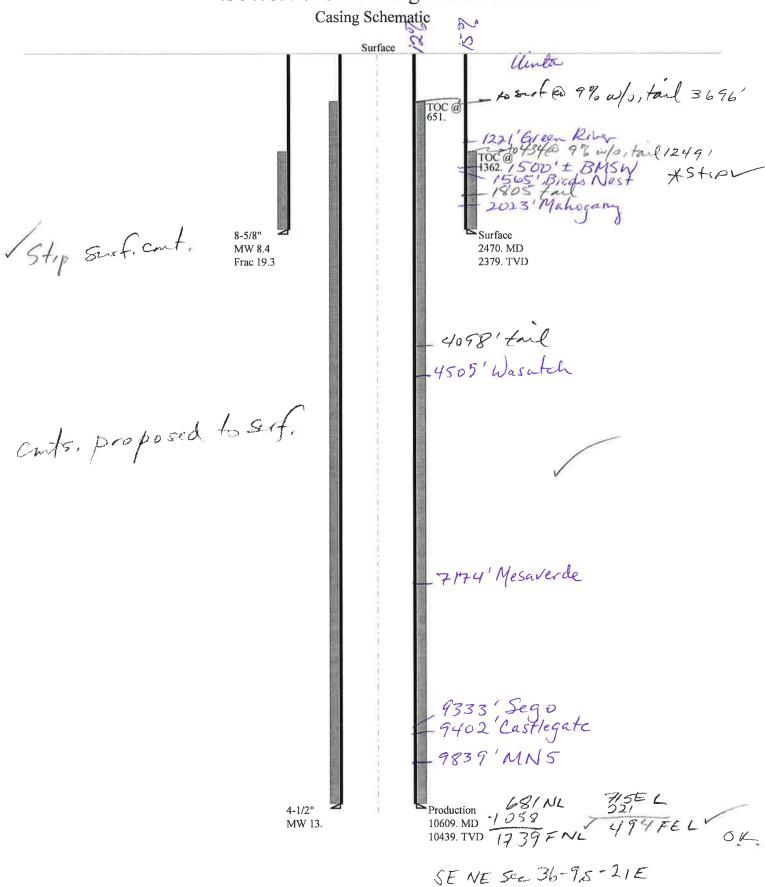
Joe Matney Sr. Staff Landman



## BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. Morgan State 921-36H1CS 43047522710000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. More		.P. Morgan S	State 92	21-36H1C	3			
String		Surf	Prod					<u>-</u>	
Casing Size(")		8.625	4.500					ī	
Setting Depth (TVD)		2379	10439					ī	
Previous Shoe Setting Dept	h (TVD)	0	2379					<u>=</u> i	
Max Mud Weight (ppg)		8.4	13.0					<u>=</u> i	
BOPE Proposed (psi)		500	5000					<u>=</u> i	
Casing Internal Yield (psi)		3390	10690	Ē				<u>-</u>	
Operators Max Anticipated	Pressure (psi)	6890	12.7					<u>-</u>	
Calculations		Court Ctus					8.625	<del>"</del>	
Max BHP (psi)		Surf Stri	52*Setting D	)enth	*MW-		0.025		
(psi)			JZ Setting L	сри	I IVI VV =	1039		BOPE Adea	uate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing I	Depth)=	754	i	NO I	air drill
MASP (Gas/Mud) (psi)			P-(0.22*Setti		1.	516		NO I	Reasonable depth in area
(			- (0.22 27		· · · · · ·	516		<u> </u>	expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP22*(S	etting Depth	- Previous Sh	ое Г	Depth)=	516		NO I	i
Required Casing/BOPE Tes	st Pressure=					2373		psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=				0			ımes 1psi/ft frac gradient
						0		1	
Calculations		Prod Str	ing				4.500	"	
Max BHP (psi)		.0.	52*Setting D	epth	n*MW=	7057			
MAGD (G ) ( )		14 DY	D (0.10±0					BOPE Adeq	uate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)			P-(0.12*Setti		-	5804		NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ing I	Depth)=	4760		YES	ок
Pressure At Previous Shoe	May BHD 22*(S	atting Danth	Dravious Sh	ιοα Γ	lanth)-				xpected Pressure Be Held At Previous Shoe?
Required Casing/BOPE Tes		ctting Depth	- Tievious Si	100 1	усрии)=	5284		NO I	Reasonable
*Max Pressure Allowed @		Shoo-				5000		psi *Aaa	umes 1psi/ft frac gradient
· Max Fressure Allowed @	r revious Casing i	Silve=				2379		psi *Assı	imes Tpsi/It frac gradient
Calculations		String						"	
Max BHP (psi)		.0	52*Setting D	epth	*MW=				
								BOPE Adeq	uate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing I	Depth)=			NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ing I	Depth)=			NO	
nn	N. DAND SOME	6	<b>D</b> : 01		1.			*Can Full E	xpected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	·	etting Depth	- Previous Sh	ioe L	Depth)=			NO .	
Required Casing/BOPE Tes								psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=						psi *Assı	umes 1psi/ft frac gradient
Calculations		String						"	
Max BHP (psi)		.0	52*Setting D	epth	*MW=				
								BOPE Adeq	uate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)		Max BH	P-(0.12*Setti	ing I	Depth)=			NO	
MASP (Gas/Mud) (psi)		Max BH	P-(0.22*Setti	ng I	Depth)=			NO	
								*Can Full E	xpected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	<u> </u>	etting Depth	- Previous Sh	oe I	Depth)=			NO	
Required Casing/BOPE Tes								psi	
*Max Pressure Allowed @ 1	Previous Casing S	Shoe=					i	psi *Assu	ımes 1psi/ft frac gradient

# 43047522710000 Morgan State 921-36H1CS



Well name: 43047522710000 Morgan State 921-36H1CS

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type: Surface

.....

Project ID: 43-047-52271

Location: UINTAH COUNTY

			mjodion products.	2,0.0 pc.
			Injection pressure:	2,379 psi
			Fracture depth:	2,379 ft
			Fracture mud wt:	19.250 ppg
				7,050 psi
	Tension is based	on air weight.	0 1	13.000 ppg
	body yiold.	1.00 (b)		10,439 ft
				_ <del></del>
ecined.		` ,	0 0	20 °
opified	•	` '	•	2 °/100ft
2,379 psi			•	573 ft
•		1.00 (1)		300 ft
	Tanalani		Directional Info Build	9 Deep
	Design factor	1.00	Cement top:	1,362 ft
	Ruret:		Minimum section length:	100 ft
r cvacuated pipe.				1.40 °F/100ft
110	Design factor	1.125	•	
0.400 mmm		1 125		No 74 °F
<b>;</b> :		n tactors:		NI-
	Minimum docia	n factors:	Environment:	
	8.400 ppg n evacuated pipe.  urface 2,094 psi 0.120 psi/ft 2,379 psi pecified.	8.400 ppg Design factor  Burst: Design factor  Burst: Design factor  2,094 psi 0.120 psi/ft 2,379 psi Becified.  Design factor  Tension: 8 Round STC: 8 Round LTC: Buttress: Premium: Body yield:	8.400 ppg Design factor 1.125  Burst: Design factor 1.00  Inface 2,094 psi 0.120 psi/ft 2,379 psi 8 Round STC: 1.80 (J) 8 Round LTC: 1.70 (J) Buttress: 1.60 (J) Premium: 1.50 (J) Body yield: 1.50 (B)  Tension is based on air weight.	Recified.    Sufface   Has considered?   Surface temperature: Bottom hole temperature: Temperature gradient: Minimum section length: Minimum section l

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2470	8.625	24.00	J-55	ST&C	2379	2470	7.972	12716
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1038	1370	1.320	2379	2950	1.24	57.1	244	4.27 J

Prepared

Helen Sadik-Macdonald Div of Oil,Gas & Mining Phone: 801 538-5357 FAX: 801-359-3940 Date: March 1,2012 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2379 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

43047522710000 Morgan State 921-36H1CS

Operator:

**KERR-MCGEE OIL & GAS ONSHORE, L.P.** 

String type:

Production

Project ID: 43-047-52271

Location:

**UINTAH** 

COUNTY

**Environment:** 

	_	
Col	laps	e

Mud weight: Design is based on evacuated pipe.

Design parameters:

13.000 ppg

Minimum design factors: Collapse:

Design factor 1.125

H2S considered?

Surface temperature: Bottom hole temperature:

No 74 °F 220 °F

Temperature gradient: Minimum section length: 1.40 °F/100ft 100 ft

**Burst:** 

Tension:

Buttress:

Design factor

1.00 Cement top: 651 ft

**Burst** 

Max anticipated surface

pressure: Internal gradient: Calculated BHP

4,753 psi 0.220 psi/ft

7.050 psi

No backup mud specified.

Premium: Body yield:

8 Round STC:

8 Round LTC:

Tension is based on air weight. Neutral point: 8,580 ft Directional Info - Build & Drop

Kick-off point 300 ft Departure at shoe: 1081 ft Maximum dogleg: 2 °/100ft

Inclination at shoe:

0°

Estimated cost:

159,024 (\$)

1.80 (J)

1.80 (J)

1.60 (J)

1.50 (J)

1.60 (B)

Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
Seq	Length (ft)	Size (in)	Weight (lbs/ft)	Grade	Finish	Depth (ft)	Depth (ft)	Diameter (in)	Cost (\$)
2	5000	4.5	11.60	HCP-110	DQX	4830	5000	3.875	132000
1	5609	4.5	11.60	HCP-110	LT&C	10439	10609	3.875	27024
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
2	3262	8124	2.491		10690	1.84	121.1	367.2	3.03 B
1	7050	8650	1.227	7050	10690	1.52	65.1	279	4.29 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Mining by:

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 1,2012 Salt Lake City, Utah

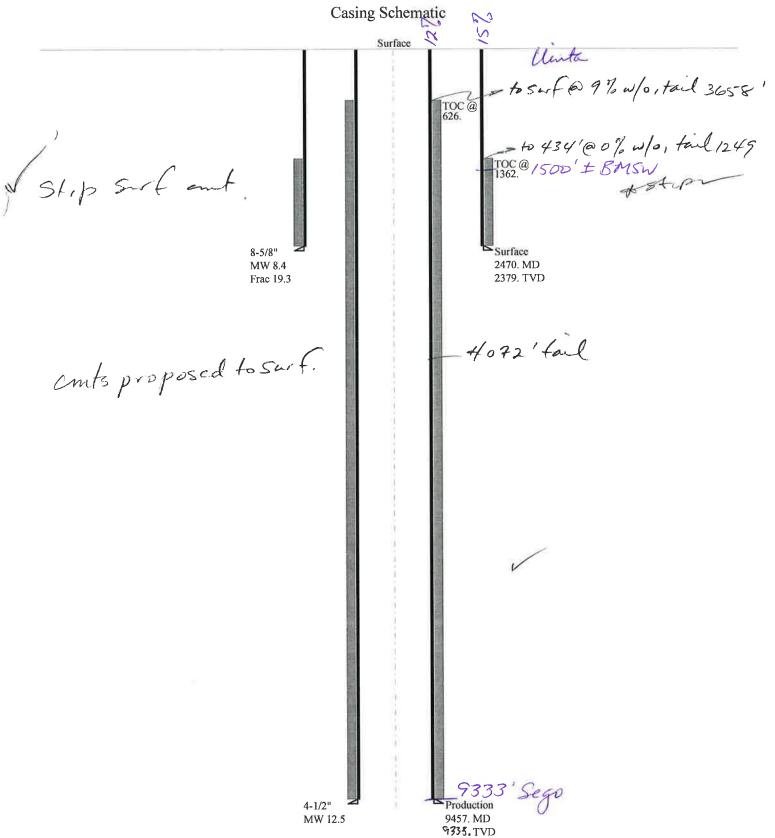
Remarks:

Collapse is based on a vertical depth of 10439 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

# 43047522710000 Morgan State 921-36H1CS



43047522710000 Morgan State 921-36H1CS Well name:

KERR-MCGEE OIL & GAS ONSHORE, L.P. Operator:

String type: Surface

**UINTAH** Location: COUNTY Project ID:

43-047-52271

Design parameters: Collapse		Minimum design Collapse:	factors:	Environment: H2S considered?	No
Mud weight: Design is based on evacu	8.400 ppg ated pipe.	Design factor	1.125	Surface temperature: Bottom hole temperature: Temperature gradient: Minimum section length:	74 °F 107 °F 1.40 °F/100ft 100 ft
		Burst:			
		Design factor	1.00	Cement top:	1,362 ft
Burst					.,
Max anticipated surface pressure:	2,094 psi				
Internal gradient:	0.120 psi/ft	Tension:		Directional Info - Build 8	2 Drop
Calculated BHP	2,379 psi	8 Round STC:	1.80 (J)	Kick-off point	300 ft
Calculated Di II	2,070 psi	8 Round LTC:	1.70 (J)	Departure at shoe:	573 ft
No backup mud specified.		Buttress:	1.60 (J)	Maximum dogleg:	2 °/100ft
No backup mud specified.		Premium:	1.50 (J)	Inclination at shoe:	20 °
		Body yield:	1.50 (B)	Re subsequent strings:	
		Tanaian is because	a airairabt	Next setting depth:	9,287 ft
		Tension is based or	•	Next mud weight:	12.500 ppg
		Neutral point:	2,156 ft	Next setting BHP:	6,031 psi
				Fracture mud wt:	19.250 ppg
				Fracture depth:	2,379 ft
				Injection pressure:	2,379 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2470	8.625	28.00	1-55	LT&C	2379	2470	7.892	97812
Run Seq	Collapse Load (psi) 1038	Collapse Strength (psi) 1880	Collapse Design Factor 1.811	Burst Load (psi) 2379	Burst Strength (psi) 3390	Burst Design Factor 1.42	Tension Load (kips) 66.6	Tension Strength (kips) 348	Tension Design Factor 5.22 J

Helen Sadik-Macdonald Prepared by: Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 1,2012 Salt Lake City, Utah

Collapse is based on a vertical depth of 2379 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:

43047522710000 Morgan State 921-36H1CS

Operator:

KERR-MCGEE OIL & GAS ONSHORE, L.P.

String type:

Production

Project ID:

43-047-52271

Location:

**UINTAH** 

COUNTY

**Environment:** 

Design	parameters:
Collapse	•

Mud weight: Internal fluid density: 12.500 ppg 1.000 ppg Minimum design factors: Collapse: Design factor

1.125

H2S considered? Surface temperature: Bottom hole temperature:

No 74 °F 204 °F

Temperature gradient: Minimum section length: 1.40 °F/100ft 100 ft

Burst:

Design factor

1.00 Cement top: 626 ft

Burst

Max anticipated surface

pressure: Internal gradient: Calculated BHP

3,987 psi 0.220 psi/ft 6,031 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J) 8 Round LTC: 1.80 (J) 1.60 (J) Buttress: 1.50 (J) Premium:

Body yield:

Tension is based on air weight.

Directional Info - Build & Drop

Kick-off point 300 ft Departure at shoe: 1081 ft Maximum dogleg: 2 °/100ft

0 ° Inclination at shoe:

Neutral point: 7,722 ft

Estimated cost:

190,832 (\$)

1.60 (B)

Run	Segment		Nominal		End	True Vert	Measured	Drift	Est.
Seq	Length	Size	Weight	Grade	Finish	Depth	Depth	Diameter	Cost
-	(ft)	(in)	(lbs/ft)			(ft)	(ft)	(in)	(\$)
2	5000	4.5	11.60	1-80	DQX	4830	5000	3.875	132000
1	4457	4.5	11.60	1-80	LT&C	9287	9457	3.875	58832
Run	Collapse	Collapse	Collapse	Burst	Burst	Burst	Tension	Tension	Tension
Seq	Load	Strength	Design	Load	Strength	Design	Load	Strength	Design
•	(psi)	(psi)	Factor	(psi)	(psi)	Factor	(kips)	(kips)	Factor
2	2885	5918	2.051	5050	7780	1.54	107.7	267	2.48 J
1	5548	6360	1.146	6031	7780	1.29	51.7	212	4.10 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Mining

Phone: 801 538-5357 FAX: 801-359-3940

Date: March 1,2012 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 9287 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

From: Jim Davis

To: APD APPROVAL

**CC:** Danielle Piernot; Julie Jacobson

**Date:** 4/2/2012 1:51 PM

**Subject:** Morgan State 921-36A Morgan State 921-36I pad wells

The following wells have been approved by SITLA including arch and paleo clearance.

Morgan State 921-36A4BS (4304752268) Morgan State 921-36A4CS (4304752269) Morgan State 921-36H1BS (4304752270) Morgan State 921-36H1CS (4304752271) Morgan State 921-36I1CS (4304752251) Morgan State 921-36H4BS (4304752288) Morgan State 921-36I1BS (4304752289) Morgan State 921-36I1BS (4304752290)

Thanks.

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156

# ON-SITE PREDRILL EVALUATION

# Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name Morgan State 921-36H1CS

API Number 43047522710000 APD No 5055 Field/Unit NATURAL BUTTES

Location: 1/4,1/4 NENE Sec 36 Tw 9.0S Rng 21.0E 681 FNL 715 FEL

GPS Coord (UTM) 628631 4428610 Surface Owner

## **Participants**

Sheila Wopsock, Charles Chase, Danielle Piernot, Doyle Holmes, (Anadarko). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). Alex Hansen (DWR). Chris Jensen and David Hackford, (DOGM).

## Regional/Local Setting & Topography

This site is on an existing location, and very little new construction will be necessary.

This location is within the Natural Buttes Unit but this section is not part of the Natural Buttes Unit. It is approximately 14 road miles southeast of Ouray, Utah. The general area is at the head of a long unnamed wash east of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimmed with steep side hills, which have exposed sandstone bedrock cliffs along the rims.

Four new directional wells will be drilled from this location which currently has one well, the Morgan State 8-36. The decision to PA or TA this existing well hasn't been made at this time.

## Surface Use Plan

**Current Surface Use** 

Grazing Wildlfe Habitat Existing Well Pad

New Road Miles Well Pad Src Const Material Surface Formation

0 Width 287 Length 435 Onsite UNTA

Ancillary Facilities N

Waste Management Plan Adequate? Y

**Environmental Parameters** 

Affected Floodplains and/or Wetlands N

Flora / Fauna

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, coyote, raptors, small mammals and birds.

## Soil Type and Characteristics

Rocky sandy clay loam.

**Erosion Issues** N

**Sedimentation Issues** N

Site Stability Issues N

Drainage Diverson Required? N

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Y Paleo Potental Observed? N Cultural Survey Run? Y Cultural Resources? N

### Reserve Pit

Site-Specific Factors	Site Ran	king	
Distance to Groundwater (feet)	> 200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)		20	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
Annual Precipitation (inches)		0	
Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	35	1 Sensitivity Level

## Characteristics / Requirements

The reserve pit is planned in an area of cut on the northwest corner of the location. Dimensions are 240' x 80' x 12' deep with two feet of freeboard. Kerr McGee has agreed to line this pit with a 30 mil synthetic liner and a layer of felt sub-liner.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y

## Other Observations / Comments

David Hackford 1/11/2012 **Evaluator Date / Time** 

# Application for Permit to Drill Statement of Basis

4/10/2012

# Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
5055	43047522710000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSE	IORE, L.P.	Surface Owner-APD		
Well Name	Morgan State 921-36H1CS		Unit		
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	NENE 36 9S 21E S 683	1 FNL 715	FEL GPS Coord		
Location	(UTM) 628636E 4428618N				

## **Geologic Statement of Basis**

Kerr McGee proposes to set 2,470' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 1,500'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 36. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill **APD Evaluator** 

2/7/2012 **Date / Time** 

## **Surface Statement of Basis**

The general area is in the central portion of the Natural Buttes Unit. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River is six miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 42.8 miles to the northwest. Access from Vernal is by following Utah State, Uintah County and oilfield development roads.

Four wells will be directionally drilled from this location. They are the Morgan State 921-36H1CS, Morgan State 921-36H1BS, Morgan State 921-36A4CS and the Morgan State 921-36A4BS. The existing location currently has one well. This well is the Morgan State 8-36. The decision to PA or TA this well has not been made at this time. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

New construction will consist of approximately 100 feet on the south, 100 feet on the west, 75 feet on the north, and 100 feet on the east side of the existing location.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Alex Hansen with DWR were invited by email to the pre-site evaluation. Both were present. Kerr McGee personnel were told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford 1/11/2012
Onsite Evaluator Date / Time

## Conditions of Approval / Application for Permit to Drill

Category Condition

Pits A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed

and maintained in the reserve pit.

Pits The reserve pit should be located on the northwest side of the location.

## **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 12/19/2011 API NO. ASSIGNED: 43047522710000

WELL NAME: Morgan State 921-36H1CS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6156

**CONTACT:** Danielle Piernot

PROPOSED LOCATION: NENE 36 090S 210E Permit Tech Review:

> SURFACE: 0681 FNL 0715 FEL **Engineering Review:**

> **BOTTOM:** 1739 FNL 0493 FEL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 39.99795 LONGITUDE: -109.49309 **UTM SURF EASTINGS: 628636.00** NORTHINGS: 4428618.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 22265 PROPOSED PRODUCING FORMATION(S): BLACKHAWK

SURFACE OWNER: 3 - State **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** 

✓ PLAT R649-2-3.

Bond: STATE/FEE - 22013542 Unit:

**Potash** R649-3-2. General

Oil Shale 190-3 R649-3-3. Exception

**Drilling Unit** Oil Shale 190-13

Board Cause No: Cause 173-24 Water Permit: 43-8496

Effective Date: 10/5/2009 **RDCC Review:** 

Siting: 460' Fr Exterior Lease Boundary Fee Surface Agreement

✓ Intent to Commingle R649-3-11. Directional Drill

**Commingling Approved** 

Oil Shale 190-5

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet 5 - Statement of Basis - bhill 15 - Directional - dmason 17 - Oil Shale 190-5(b) - dmason 25 - Surface Casing - hmacdonald



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

## Permit To Drill

\*\*\*\*\*\*

Well Name: Morgan State 921-36H1CS

**API Well Number:** 43047522710000

Lease Number: ML 22265 Surface Owner: STATE Approval Date: 4/10/2012

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

## Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-24. The expected producing formation or pool is the BLACKHAWK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### **Commingle:**

In accordance with Board Cause No. 173-24, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

## Conditions of Approval:

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil

shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

## **Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan contact Dustin Doucet
- Significant plug back of the well contact Dustin Doucet
- Plug and abandonment of the well contact Dustin Doucet

## **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to cementing or testing casing contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program
  - contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well contact Dan Jarvis

## **Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 office
- Dustin Doucet 801-538-5281 office

801-733-0983 - after office hours

• Dan Jarvis 801-538-5338 - office

801-231-8956 - after office hours

#### Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
  - Well Completion Report (Form 8) due within 30 days after completion or

Approved By:

For John Rogers Associate Director, Oil & Gas

Print Form

# **BLM - Vernal Field Office - Notification Form**

Oper	rator KERR-McGEE OIL & GA	<u>S</u> Rig Name/# <u>BUC</u>	KET RIG
Subr	nitted By CARA MAHLER Pr	none Number 720	.929.6029
	Name/Number MORGAN ST		
	Qtr NENE Section 36		Range 21E
-	e Serial Number ML 22265		<b>_</b>
	Number 4304752271		
, <u> </u>	<u> </u>		
Spuc	<u> Notice</u> – Spud is the initial	spudding of the we	ell, not drilling
-	pelow a casing string.	, -	
	Date/Time <u>07/30/2012</u>	16:00 HRS AM	PM 🔙
-			
<u>Casir</u>	<u>ng</u> – Please report time casi	ng run starts, not ce	ementing
time	S.		•
$\checkmark$	Surface Casing		
	Intermediate Casing	•	
	Production Casing		
	Liner		
	Other		
	Date/Time <u>08/13/2012</u>	08:00 HRS AM	PM
	_		
<u>BOPI</u>	<del>_</del>		
	Initial BOPE test at surface	<b>-</b> •	
	BOPE test at intermediate	casing point	
	30 day BOPE test		
	Other		
			<del>_</del>
	Date/Time	AM [	PM []
Rem	arks estimated date and time. Plea	SE CONTACT KENNY GATHINGS	AT
435.82	8.0986 OR LOVEL YOUNG AT 435.781.705	51	

Sundry Number: 28788 API Well Number: 43047522710000

	STATE OF UTAH		FORM 9
ι	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: Morgan State 921-36H1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 720 929-6	9. FIELD and POOL or WILDCAT: 5NIATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: NENE Section: 3	IIP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Merio	dian: S	STATE: UTAH
11. CHECH	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
 	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
7/31/2012	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU TRIPLE A BU RAN 14" 36.7# SCHI	COMPLETED OPERATIONS. Clearly show CKET RIG. DRILLED 20" CON EDULE 10 CONDUCTOR PIPE /ELL LOCATION ON 7/31/20	IDUCTOR HOLE TO 40'. E. CMT W/28 SX READY	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY August 14, 2012
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUMB</b> 720 929-6029	ER TITLE Regulatory Analyst I	
SIGNATURE N/A		<b>DATE</b> 8/9/2012	

### STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

## **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

zip 80217 state CO

Phone Number: (720) 929-6029

#### Well 1

API Number	Wel	l Name	QQ	Sec	Twp	Rng	County
4304752271	MORGAN ST	ATE 921-36H1CS	NENE	36	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		ity Assignment iffective Date
A	99999	18666	7	7/31/201	2	318	20 12012
	BUCKET RIG. WELL LOCATION O	N 7/31/2012 AT 10:00		VRC HL	serie		

Well 2

API Number	Well	Well Name MORGAN STATE 921-36H1BS		Well Name QQ Sec Twr		Twp	Rng County		
4304752270	MORGAN ST			NENE 36 9S		21E UINTAH			
Action Code	Current Entity Number	New Entity Number	s	pud Da	te		y Assignment fective Date		
A	99999	18667	7	7/31/201	2	812	0 12012		
Comments: MIRU	BUCKET RIG.		N	NR	D				
SPUE	WELL LOCATION O	N 7/31/2012 AT 12:30	HRS. B	4L - S	ieno				

#### Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752269	MORGAN	MORGAN STATE 921-36A4CS		36	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	18668	7	7/31/201	2	8120	12012
	BUCKET RIG.			VRP	)		
SPUD	WELL LOCATION OF	N 7/31/2012 AT 15:00	HRS. D	<u>ы</u> : :	nan	_	

## **ACTION CODES:**

- A Establish new entity for new well (single well only)
- **B** Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a pewertip VED E Other (Explain in 'comments' section)
- E Other (Explain in 'comments' section)

AUG 15 2012

**CARA MAHLER** 

Name (Please Prigt) 12-

Signature

Title

**REGULATORY ANALYST** 

8/9/2012

Date

(5/2000)

Sundry Number: 30414 API Well Number: 43047522710000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORTS (	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly or reenter plugged wells, or to drill horizor n for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Meridi	an: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
10/2/2012	WILDCAT WELL DETERMINATION	OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show a ne month of September 2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 03, 2012
NAME (PLEASE PRINT)	PHONE NUMBE		
Lindsey Frazier	720 929-6857	Regulatory Analyst II	
SIGNATURE N/A		<b>DATE</b> 10/2/2012	

Sundry Number: 31240 API Well Number: 43047522710000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	RY NOTICES AND REPORTS O	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly dreenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522710000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-0	9. FIELD and POOL or WILDCAT: 5MATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 6 Township: 09.0S Range: 21.0E Meridia	an: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICATI	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE [	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start:	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN [	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	water shutoff	SI TA STATUS EXTENSION	APD EXTENSION
10/18/2012		SITA STATUS EXTENSION	
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
FINISHED DRIL PRODUCTION C DETAILS OF CASING	COMPLETED OPERATIONS. Clearly show at LING TO 10,605.00' ON 10/16 CASING. RELEASED H&P 298 G AND CEMENT WILL BE INCL EPORT. WELL IS WAITING ON F ACTIVITIES.	/2012. CEMENTED RIG ON 10/18/2012. UDED WITH THE WELL	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY October 22, 2012
NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBE 720 929-6857	R TITLE Regulatory Analyst II	
SIGNATURE		DATE	
N/A		10/22/2012	

Sundry Number: 29206 API Well Number: 43047522710000

	STATE OF UTAH		FORM 9
1	DEPARTMENT OF NATURAL RESOURC DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 7 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 66 Township: 09.0S Range: 21.0E Merid	ian: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
The operator pro 921-36A Pad which 921-36H1BS,	COMPLETED OPERATIONS. Clearly show a poses drill cutting options f includes: Morgan State 921-36A4CS, A4BS. Please see attached.	or the Morgan State -36H1CS, Morgan State and Morgan State	CASING REPAIR  CHANGE WELL NAME  CONVERT WELL TYPE  NEW CONSTRUCTION  PLUG BACK  RECOMPLETE DIFFERENT FORMATION  TEMPORARY ABANDON  WATER DISPOSAL  APD EXTENSION  OTHER: DRILL CUTTING OPTIONS  DEPTAY OF THE CONTROL O
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUMB</b> 720 929-6029	ER TITLE Regulatory Analyst I	
SIGNATURE N/A		<b>DATE</b> 8/24/2012	

Sundry Number: 29206 API Well Number: 43047522710000



## The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

## Sundry Conditions of Approval Well Number 43047522710000

Cuttings are to be stored on location and used for future reclamation. Transport of cuttings to a commercial landfarm is not allowed. This is a one- time approval for the four Morgan State wells based on the analytical results for the cuttings.

RECEIVED: Oct. 26, 2012

Sundry Number: 29206 API Well Number: 43047522710000

As part of Kerr-McGee's (KMG) on-going efforts to minimize surface impacts and reduce pad sizes in the Greater Natural Buttes, KMG is pursuing additional alternatives to more efficiently manage drilling and completion operations. As drilling operations progress further towards closed loop operations, larger pad locations and utilizing pits becomes less of a need.

Two additional options KMG would like to implement for managing drill cuttings, are hauling drill cuttings to an approved Utah Department of Oil, Gas and Mining Commercial Landfarm Disposal Facility, and incorporation of drill cuttings into the pad location during interim reclamation practices. In order to accomplish this all cuttings will be either be stock piled on location for use during interim reclamation or they will be stored in above ground containers prior to transport to an approved Utah Department of Oil, Gas and Mining Commercial Landfarm Disposal Facility.

Sundry Number: 32660 API Well Number: 43047522710000

	STATE OF UTAH		FORM 9
ı	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significantly reenter plugged wells, or to drill horizon for such proposals.		7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 16 Township: 09.0S Range: 21.0E Meric	lian: S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
Report Date: 12/3/2012			
	WILDCAT WELL DETERMINATION	□ OTHER	OTHER:
l .	completed operations. Clearly show the month of November 2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY December 04, 2012
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMB</b> 720 929-6304	ER TITLE Regulartory Analyst	
SIGNATURE	720 929-0304	DATE	
N/A		12/3/2012	

Sundry Number: 33551 API Well Number: 43047522710000

	STATE OF UTAH			FORM 9
ι	DEPARTMENT OF NATURAL RESOU DIVISION OF OIL, GAS, AND N		<b>3</b>	5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	Y NOTICES AND REPORT	S ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	posals to drill new wells, significant reenter plugged wells, or to drill hori n for such proposals.			7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL 8.			8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 802		NE NUMBER: 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	ilP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Me	ridian: \$	S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDIC	ATE N	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
_	ACIDIZE		ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ F	RACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	F	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	□ F	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR		/ENT OR FLARE	WATER DISPOSAL
✓ DRILLING REPORT Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION	APD EXTENSION
1/3/2013	WILDCAT WELL DETERMINATION		OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly sho	-		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 07, 2013
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUI</b> 720 929-6857	MBER	TITLE Regulatory Analyst II	
SIGNATURE N/A			<b>DATE</b> 1/3/2013	

Sundry Number: 34375 API Well Number: 43047522710000

	STATE OF UTAH			FORM	19
ι	DEPARTMENT OF NATURAL RESOL DIVISION OF OIL, GAS, AND N		ì	5.LEASE DESIGNATION AND SERIAL NUMBE ML 22265	R:
SUNDR	Y NOTICES AND REPORT	S ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	_
	posals to drill new wells, significant eenter plugged wells, or to drill hor n for such proposals.			7.UNIT or CA AGREEMENT NAME:	_
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047522710000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80		<b>NE NUMBER:</b> 9 720 929-6	9. FIELD and POOL or WILDCAT: 65NATURAL BUTTES	_
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL				COUNTY: UINTAH	
QTR/QTR, SECTION, TOWNSH	IIP, RANGE, MERIDIAN: 6 Township: 09.0S Range: 21.0E Me	eridian: S	S	STATE: UTAH	
11. CHECK	APPROPRIATE BOXES TO INDIC	CATE N	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA	
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING	CASING REPAIR	_
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	CHANGE WELL NAME	
Approximate date work will start.	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	☐ F	RACTURE TREAT	☐ NEW CONSTRUCTION	
	OPERATOR CHANGE		PLUG AND ABANDON	PLUG BACK	
	PRODUCTION START OR RESUME		RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION	
SPUD REPORT Date of Spud:				TEMPORARY ABANDON	
	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL		
✓ DRILLING REPORT	L TUBING REPAIR		ENT OR FLARE	WATER DISPOSAL	
Report Date: 2/4/2013	WATER SHUTOFF	□ s	SI TA STATUS EXTENSION	APD EXTENSION	
27 172010	WILDCAT WELL DETERMINATION	∐ c	DTHER	OTHER:	
Started	COMPLETED OPERATIONS. Clearly sho	TDa	t 10,605	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 13, 2013	
NAME (PLEASE PRINT) Laura Abrams	<b>PHONE NU</b> 720 929-6356	MBER	TITLE Regulatory Analyst II		
SIGNATURE N/A			<b>DATE</b> 2/4/2013		

RECEIVED: Feb. 04, 2013

Sundry Number: 34984 API Well Number: 43047522710000

	STATE OF UTAH			FORM 9
1	DEPARTMENT OF NATURAL RESOL DIVISION OF OIL, GAS, AND N		à	5.LEASE DESIGNATION AND SERIAL NUMBER: ML 22265
SUNDR	RY NOTICES AND REPORT	S ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	oposals to drill new wells, significan reenter plugged wells, or to drill hor n for such proposals.			7.UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: MORGAN STATE 921-36H1CS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.			9. API NUMBER: 43047522710000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80		ONE NUMBER: 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0681 FNL 0715 FEL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 66 Township: 09.0S Range: 21.0E Me	eridian:	S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDIC	CATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
The subject wel	□ ACIDIZE □ CHANGE TO PREVIOUS PLANS □ CHANGE WELL STATUS □ DEEPEN □ OPERATOR CHANGE ✓ PRODUCTION START OR RESUME □ REPERFORATE CURRENT FORMATION □ TUBING REPAIR □ WATER SHUTOFF □ WILDCAT WELL DETERMINATION  COMPLETED OPERATIONS. Clearly she I WAS placed on production I History will be submitted report.	ow all pe	02/22/2013. The	CASING REPAIR CHANGE WELL NAME CONVERT WELL TYPE NEW CONSTRUCTION PLUG BACK RECOMPLETE DIFFERENT FORMATION TEMPORARY ABANDON WATER DISPOSAL APD EXTENSION OTHER: Epths, volumes, etc.  Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY February 25, 2013
NAME (PLEASE PRINT)	PHONE NU	MBER	TITLE	
SIGNATURE	720 929-6857		Regulatory Analyst II  DATE 2/25/2013	
N/A			2/25/2013	

RECEIVED: Feb. 25, 2013

# RECEIVED

MAR 2 7 2013 AMENDED REPORT STATE OF UTAH FORM 8 DEPARTMENT OF NATURAL RESOURCES (highlight changes) 5. LEASE DESIGNATION AND SERIAL NUMBER: DIVISION OF OIL, GAS AND MINING DIV. OF OIL, GAS & MINING ML 22265 6. IF INDIAN, ALLOTTEE OR TRIBE NAME. WELL COMPLETION OR RECOMPLETION REPORT AND LOG 7. UNIT or CA AGREEMENT NAME 1a. TYPE OF WELL: GAS VELL OTHER 8 WELL NAME and NUMBER: b. TYPE OF WORK: MORGAN STATE 921-36H1CS DEEP-HORIZ. RE-ENTRY WEYL 🔽 OTHER 9. API NUMBER: KERR MCGEE OIL & GAS ONSHORE. L.P. 4304752271 10 FIELD AND POOL, OR WILDCAT PHONE NUMBER: 3. ADDRESS OF OPERATOR: STATE CO ZIP 80217 (720) 929-6000 NATURAL BUTTES CITY DENVER P.O.BOX 173779 11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 4. LOCATION OF WELL (FOOTAGES) AT SURFACE: NENE 681 FNL 715 FEL S36, T9S, R21E NENE 36 9S 21E S AT TOP PRODUCING INTERVAL REPORTED BELOW: SENE 1720 FNL 504 FEL S36,T9S,R21E 12. COUNTY 13. STATE UTAH AT TOTAL DEPTH: SENE 1764 FNL 481 FEL S36, T9S, R21E **UINTAH** 17. ELEVATIONS (DF, RKB, RT, GL): 15. DATE T.D. REACHED: 16. DATE COMPLETED: 14. DATE SPUDDED: READY TO PRODUCE ABANDONED 4949 RKB 10/16/2012 2/22/2013 7/31/2012 21. DEPTH BRIDGE 19. PLUG BACK T.D.: MD 10.549 MD 20. IF MULTIPLE COMPLETIONS, HOW MANY? \* 18. TOTAL DEPTH: MD 10.605 PLUG SET: TVD TVD 10.392 TVD 10,448 22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) 23. YES \_\_\_ NO 🗸 WAS WELL CORED? (Submit analysis) CBL/GR/CCL/TEMP WAS DST RUN? NO 🗸 YES (Submit report) NO YES 🗸 (Submit copy) DIRECTIONAL SURVEY? 24. CASING AND LINER RECORD (Report all strings set in well) STAGE CEMENTER CEMENT TYPE & SLURRY AMOUNT PULLED CEMENT TOP \*\* SIZE/GRADE TOP (MD) BOTTOM (MD) WEIGHT (#/ft.) HOLE SIZE NO. OF SACKS VOLUME (BBL) DEPTH 28 40 14" 36.7# 0 20" STL 600 0 28# 0 2.581 11" 8 5/8" **IJ-55** 1900 0 10.596 1,846 7 7/8' 4 1/2" P-110 11.6# 25. TUBING RECORD DEPTH SET (MD) PACKER SET (MD) SIZE DEPTH SET (MD) PACKER SET (MD) SIZE DEPTH SET (MD) PACKER SET (MD) SIZE 10,073 2 3/8" 27. PERFORATION RECORD 26. PRODUCING INTERVALS PERFORATION STATUS INTERVAL (Top/Bot - MD) SIZE NO. HOLES TOP (MD) BOTTOM (MD) TOP (TVD) BOTTOM (TVD) FORMATION NAME 7.534 10,415 0.36 240 Open Squeezed 7.534 10,415 (A) MESAVERDE Squeezed Open (B) Squeezed Open (C) Open Squeezed (D) 28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC. AMOUNT AND TYPE OF MATERIAL DEPTH INTERVAL PUMP 14,362 BBLS SLICK H2O & 309,961 LBS 30/50 OTTAWA SAND 7534-10.415 10 STAGES 30. WELL STATUS: 29. ENCLOSED ATTACHMENTS: ✓ DIRECTIONAL SURVEY DST REPORT GEOLOGIC REPORT FI FCTRICAL/MECHANICAL LOGS PROD OTHER: CORE ANALYSIS SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

#### INTERVAL A (As shown in item #26) 31. INITIAL PRODUCTION WATER - BBL: TEST PRODUCTION OIL - BBL: GAS - MCF: DATE FIRST PRODUCED: TEST DATE: HOURS TESTED: RATES: 3.088 0 3/15/2013 2/22/2013 GAS - MCF WATER - BBL: CSG. PRESS API GRAVITY BTU - GAS GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: TBG. PRESS. CHOKE SIZE: 3,088 RATES: 0 0 20/64 1,830 2,376 INTERVAL B (As shown in item #26) OIL - BBL: GAS - MCF: WATER - BBL: TEST PRODUCTION HOURS TESTED: DATE FIRST PRODUCED: TEST DATE: RATES: → INTERVAL STATUS: GAS - MCF: WATER - BBL GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: BTU - GAS CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY RATES: INTERVAL C (As shown in item #26) WATER - BBL: TEST PRODUCTION OIL - BBL: GAS - MCF: TEST DATE: HOURS TESTED: DATE FIRST PRODUCED: RATES: WATER - BBL: GAS/OIL RATIO 24 HR PRODUCTION OIL - BBL: GAS - MCF: BTU ~ GAS CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY RATES: INTERVAL D (As shown in item #26) PROD METHOD: GAS - MCF: WATER - BBL: HOURS TESTED: TEST PRODUCTION OIL - BBL: DATE FIRST PRODUCED: TEST DATE: RATES: GAS - MCF: WATER - BBL: 24 HR PRODUCTION OIL - BBL: CHOKE SIZE: TBG. PRESS. CSG. PRESS. API GRAVITY BTU - GAS GAS/OIL RATIO RATES: 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

SOLD

tested, cushion used, time tool open, flowing and shut-in pressures and recoveries

33. SUMMARY OF POROUS ZONES (Include Aquifers): Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval 34. FORMATION (Log) MARKERS:

PROD. METHOD:

FLOWING

INTERVAL STATUS:

PROD. METHOD:

PROD METHOD:

INTERVAL STATUS:

INTERVAL STATUS:

**PROD** 

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1,313 1,642 2,133 4,692 7,334

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5115'; LTC csg was run from 5115' to 10,596'. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.								
NAME (PLEASE PRINT) LINDSEY FRAZIER	TITLE	REGULATORY ANALYST						
OLOMATURE OF A TANK	DATE	3/19/2013						

This report must be submitted within 30 days of

<u>inds</u>

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top - Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to:

SIGNATURE

Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210 Box 145801 Salt Lake City, Utah 84114-5801

Phone: 801-538-5340 801-359-3940 Fax:

(5/2000)

# US ROCKIES REGION

# **Operation Summary Report**

Well: MORGAN	STATE 9	21-36H1CS	RED					Spud Date: 8/12/2012	
Project: UTAH-UINTAH Site: MO				RGAN ST	ATE 921	-36A PAD	Rig Name No: PROPETRO 11/11, H&P 298/298		
Event: DRILLING Start Date			e: 7/19/20	012		End Date: 10/18/2012			
Active Datum: RKB @4,949.00usft (above Mean Sea Level)					UWI: NE/NE/0/9/S/21/E/36/0/0/26/PM/N/681/E/0/715/0/0				
Date	6 CAMPLESSES	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)	
8/11/2012		- 20:00	6.00	MIRU	01	A	Р	1.5 MILE RIG MOVE / MOVE CAMPS, RIG AND PRO PETRO TRAILERSAND CLOSED LOOP SYSTEM. STALLION HAD 3 SEMI-TRUCKS, 2 PICK UPS, 5 HANDS, PRO PETRO HAD 4 SEMI-TRUCKS AND 1 RIG. 5 HANDS. JD FIELD SERVICE HAD 2 SEMI-TRUCKS AND 2 HANDS	
	20:00	- 0:00	4.00	MIRU	01	В	P	M.S. 921-36H1CS (WELL 1 OF 4) INSTALL DIVERTOR HEAD AND BLUEY LINE. RIG UP NOV CLOSED LOOP SYSTEM. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PUMP. PRIME PUMP. INSPECT RIG. SAFETY MEETING	
8/12/2012		- 1:30	1.50	DRLSUR	21	В	Z	WAIT ON DRILL SUB FROM VERNAL AFTER INSPECTION PICKED UP TOOLS AFTER INSPECTION	
	1:30	- 3:00	1.50	DRLSUR	06	A	P	DRL/ 44' - 120' ( 76' @ 156' ROP )	
	3:00	- 3:30	0.50	DRLSUR	02	D	P 7	CHANGE OUT SCREENS ON SHAKERS	
	3:30 4:00	- 4:00 - 5:30	0.50 1.50	DRLSUR DRLSUR	21 02	D D	Z P	DRL F/120' - T/210' (90' @ 60" ROP)	
							D.	RPM 45 PWERHEAD 67 MUD MOTOR UP/DWN/ROT 20/20/20 PSI ON/OFF 600/400 M.W. 8.4# VIS 27 491 GPM PUMP RATE / NO AIR NOV-ONLINE TOOH WITH #1 BHA / TIH WITH #2 BHA	
	5:30	- 8:00	2.50	DRLSUR	06	A	P		
	8:00	- 12:00	4.00	DRLSUR	02	D	P	DRL F/210' - T/760' ( 550' @ 137.5' ROP ) RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 60/50/55 5K DRAG PSI ON/OFF 850/620 M.W. 8.4# VIS 27 491 GPM PUMP RATE / NO AIR NOV-ONLINE 2.0' HIGH 1.5' LEFT OF LINE	
	12:00	- 20:00	8.00	DRLSUR	02	<b>D</b>	P	DRL F/760' - T/1320 ( 560' @ 70' ROP ) RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 68/56/63 5K DRAG PSI ON/OFF 1000/800 M.W. 8.4# VIS 27 491 GPM PUMP RATE / NO AIR NOV-ONLINE .7' HIGH 9' RIGHT OF LINE	
								SLID 264' / 25.5%	
		- 0:00	4.00	DRLSUR	80	В	Z	*** MUD PUMP LOST OIL PRESSURE ON GEAR END	
8/13/2012	0:00	- 2:30	2.50	DRLSUR	21	D	Z	***WAITING ON #2 MUD PUMP, COMING OUT OF VERNAL	

Well: MORGAN	STATE 921	-36H1CS F	RED					Spud Date: 8/12/2012
Project: UTAH-l	JINTAH			Site: MOR	RGAN STA	ATE 92	1-36A PAI	AD Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLIN	3			Start Date				End Date: 10/18/2012
Active Datum: F Level)	KB @4,949.	00usft (abo	ove Mean S	ea	UWI: NE	/NE/0/9	/S/21/E/3	36/0/0/26/PM/N/681/E/0/715/0/0
Date	Tin Start		Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
	2:30 - 5:30 -	5:30	3,00 7,50	DRLSUR	02	D	Z	DRL F/1320' - T/1660' ( 340' @ 113' ROP ) W.O.B 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 74/57/65  PSI ON/OFF 820/610  M.W. 8.4# VIS 27  397 GPM PUMP RATE / 2420 CFM AIR .56 HIGH 9.47' RIGHT  SLID 404' / 27.7%  LOST CIRCULATION @ 1570'  TOOH 10 JOINTS, WORK ON PACKING ON #2 MUD
	0.00	13.00	7.50	DILLOGIN	00	,	-	PUMP, WORK ON OILER ON #1 MUD PUMP, TIH 10 JOINTS TAG @ 1660'
	13:00 <b>-</b>		3.00	DRLSUR	02	D		DRL F/1660' - T/1900' (240' @ 80' ROP ) W.O.B 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 82/60/72 10K DRAG  PSI ON/OFF 1050/850  M.W. 8.4# VIS 27  491 GPM PUMP RATE / 2420 CFM AIR  4.21' HIGH 2.71' RIGHT  DRL F/1900' - T/2410' (510' @ 63.75' ROP ) W.O.B  18 - 20K
								RPM 45 POWERHEAD 67 MUD MOTOR UP/DWN/ROT 82/61/73 9K DRAG PSI ON/OFF 1300/1120 M.W. 8.4# VIS 27 491 GPM PUMP RATE / 2420 CFM AIR TORQUE ON/OFF 3000/2000 2.42' HIGH 3.39' RIGHT OF LINE SLID 534' / 22.5%
8/14/2012	0:00 -	3:00	3.00	DRLSUR	02	D	P	DRL F/2410' - T/2590' ( 180' @ 60' ROP ) W.O.B 18 - 20K  RPM 45 POWERHEAD 67 MUD MOTOR  UP/DWN/ROT 94/63/70 24K DRAG  PSI ON/OFF 1500/1300  M.W. 8.5# VIS 27  491 GPM PUMP RATE / 2420 CFM AIR  TORQUE ON/OFF 3000/1900  NOV-ONLINE  1.66' LOW 4.33' RIGHT OF LINE  SLID 549' / 21.54%
	3:00 -	5:00	2.00	DRLSUR	05	С	P	CIRCULATE FOR CASING
	5:00 -	7:00	2.00	DRLSUR	06	A	P	LDDS,BHA & DIRECTIONAL TOOLS TO 1270' TAKE GAS KICK, TIH 10 JOINTS, PUMP 8.4# WATER,
		9:00	2.00	DRLSUR	21	E	X	WAITING ON 12.5# MUD FROM SST-54
		9:30	0.50	DRLSUR	05	В	P	SPOT MUD
	9:30 - 12:30 -	12:30 13:30	1.00	DRLSUR DRLSUR	06 12	A A	P P	LDDS,BHA & DIRECTIONAL TOOLS  MOVE PIPE RACKS AND CATWALK. PULL  DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG  INTO POSITION TO P/U. LOAD TRUCKS WITH DRILL  PIPE FOR INSPECTION.
	13:30 -	15:00	1.50	DRLSUR	12	С	P	TIH 58 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2554.7' BAFFLE IS AT 2510.1'

Well: MORGAN		921-36H1CS	RFD			<u>LEGISTOR</u>	<u> 941,7%945</u>	Spud Date: 8/12/2012	2-18-17-11
Project: UTAH-U		21 0011100		Site: MOI	RGAN ST	ATE 921-	-36A PAE		
Event: DRILLIN				Start Date	e: 7/19/20	12		End Date: 10/18/2012	
Active Datum: R	<del></del>	949.00usft (al	oove Mean S			•	S/21/E/36	8/0/0/26/PM/N/681/E/0/715/0/0	
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)	
	15:00	- 15:30	0.50	DRLSUR	12	В	Р	HOLD SAFETY MEETING PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, RIG UP CEMENT TRUCKS, AND CEMENT HEAD.	
		- 16:30	1.00	CSGSUR	12	E	Р	MAKE UP HEAD AND LOAD PLUG. PRESSURE TI LINES TO 2000PSI. PUMP 130BBLS AHEAD 8.4# H20. PUMP 20BBLS 8.4# GEL H2O AHEAD, PUMP 300 SXS (61.4BBLS) 15.8# 1.15 YIELD TAIL (2% CALC, 1/4#/SK OF FLOCECE) DROP PLUG ON THE FLY AND DISPLACE WITH 156BBLS OF 8.4# H20. FINAL LIFT PRESSURE WAS 390PSI, BUMP PRESSURE WAS 700PSI HELD FOR 5 MINS. FLO. HELD. NO RETURNS THRU OUT JOB. PUMP 150 15.8 (30.7BBLS) CEMENT, W/4% CALCIUM DOWN 1". NO CEMENT TO SURFACE.	IE AT SK
		- 18:30	1.50	CSGSUR	13	Α	Р	WOC PUMP 150SXS (30.7 BBLS) CEMENT DOWN BACKSIDE. ( CMT TO SURFACE). RELEASE RIG @ 18:30	
10/9/2012	0:00	- 6:00	6.00	RDMO	01	E	P	RIG DOWN ON MORGAN STATE 921-36G4CS	
	6:00	- 19:00	13.00	MIRU3	01	Α	Р	MOVE RIG AND EQUIPMENT WITH JONES TRUC AND J&C CRANE TO MORGAN STATE 921-36A PAD. UTILIZED 7 JONES TRUCKS, 2 FORKLIFTS, AND 1 CRANE. H&P 12 MEN, SFTN ,RIG 90% MO\ 35% RIGGED UP	
	19:00	- 0:00	5.00	MIRU3	21	C	P	WAIT ON DAYLIGHT TO CONTINUE RIG UP	
10/10/2012	0:00	- 6:00	6.00	MIRU3	21	С	Р	WAIT ON DAYLIGHT TO CONTINUE MIRU	
	6:00	- 0:00	18.00	MIRU3	01	B	Р	MIRU / 7 JONES TRUCKS, 2 FORKLIFTS, 13 PEOF J&C 1 CRANE- 4 PEOPLE H&P 15 PEOPLE,DRK I AIR @ 15:30 , CRANE OFF LOCATION 17:00 HRS JONES TRUCKING OFF LOCATION 18:00 HRS - 3, MILE RIG MOVE/ 99% OFF OLD LOCATION CONTINUE TO RIG UP	N ,
10/11/2012	0:00	- 6:00	6.00	MIRU3	01	В	Р	CONTINUE TO RIG UP ROTARY TOOLS	
	6:00	- 13:00	7.00	PRPSPD	14	Α	·P	NIPPLE UP BOP'S & EQUIPMENT	
		- 16:00	3.00	PRPSPD	14	A	P	NIPPLE UP MI SWACO PRESSURE CONTROL EQUIPMENT	
		- 17:00	1.00	PRPSPD	14	В	P	RIG UP DRILLING BAILS & MU TEST ASSY	
		- 22:00 - 23:30	5.00	PRPSPD	15	A B	P P	TEST BOP'S & EQUIPMENT AS PER PROGRAM 250/5000 PSI - ANNULAR 250 / 2500 PSI INSTALL WEAR BUSHING & SMITH BEARING ASS	.,
		- 0:00	1.50	PRPSPD	14 15	A	P	TEST MI SWACO PRESSURE CONTROL EQUIPMI	
10/10/0010		- 1:00	0.50	PRPSPD PRPSPD			P		-141
10/12/2012	1:00	- 1:30	1.00	PRPSPD	15 07	A	P	CONTINUE TO PRESSURE TEST MI SWACO PRESSURE CONTROL EQUIPMENT SERVICE RIG	
	1:30		0.50		06	A	P		
	2:30	- 2:30	1.00 2.50	PRPSPD		A	r P	PU & MU BHA # 1 ORIENTATE ,SCRIBE & TEST SAME TIH TO 2,494' / SET BACK 4 STDS DRILL PIPE	
	5:00	- 5:00 - 6:00	1.00	PRPSPD	06 07	В	P		_
	6:00	- 7:00	1.00	DRLPRC	07	F	P	LEVEL DERRICK / INSTALL ROTATING HEAD / PR SPUD INSPECTION	-
	0.00	7.00	1.00	DIVERNO	02	'		DRILL CEMENT & SHOE TRACK FROM 2,494' TO 2,570' CLEAN OUT RATHOLE TO 2,605'	

Well: MORGAN	STATE 921-36H1CS	RED					Spud Date: 8/1:		
Project: UTAH-U	JINTAH		Site: MOI	RGAN ST	ATE 921	-36A PAD	)	Rig Name No: PROPETRO 11/11, H&P 298/298	
Event: DRILLING	 G		Start Dat	e: 7/19/20	12			End Date: 10/18/2012	
Active Datum: R Level)	KB @4,949.00usft (al	ove Mean S	Sea	UWI: NE	E/NE/0/9/	S/21/E/36	6/0/0/26/PM/N/681	I/E/0/715/0/0	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation	
	7:00 - 15:30 15:30 - 16:00	8.50	DRLPRC	02	В	P		DRILL /SLIDE / SURVEY/ F/ 2,605'-3,855' = 1,250' @147 FPH WOB 18,000-24,000 TOP DRIVE RPM 40-75 MUD MOTOR RPM 90 PUMPS 124 SPM= 558GPM PUMP PRESSURE ON/OFF BTM 2,050 /1,840 TORQUE ON/OFF BTM 9,000/ 5,000 PICK UP WT 118,000 SLACK OFF WT 105,000 ROT WT 90,000 SLIDE 208' IN 125 MIN 16.64 % OF FOOTAGE DRILLED, 2.08 %OF HRS DRILLED MUD WT 8.4 VIS 27, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% SAWDUST NOV-D WATER SWACO OFF LINE SURFACE GAS FROM 2,700' - 10 TO 30' FLARE SERVICE RIG @ 3,855'	
	16:00 - 0:00	8.00	DRLPRC	02	В	Р		DRILL /SLIDE / SURVEY/ F/ 3,855'- 5,155' = 1,300' @162.5 FPH WOB 20,000-24,000 TOP DRIVE RPM 50-75 MUD MOTOR RPM 90 PUMPS 124 SPM= 558GPM PUMP PRESSURE ON/OFF BTM 2,150 /1,970 TORQUE ON/OFF BTM 10,000/ 8,000 PICK UP WT 160,000 SLACK OFF WT 110,000 ROT WT 120,000 SLIDE 50' IN 50 MIN 10.42 % OF FOOTAGE DRILLED, 4.08 %OF HRS DRILLED MUD WT 8.7 VIS 27, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% SAWDUST NOV-D WATER SWACO OFF LINE 5-10' FLARE	

Well: MORGAN S	STATE 921-36H1CS F	RED					Spud Date: 8/12/2012
Project: UTAH-UI	NTAH		Site: MOF	RGAN ST	ATE 921	-36A PAD	Rig Name No: PROPETRO 11/11, H&P 298/298
 Event: DRILLING			Start Date	: 7/19/20	12		End Date: 10/18/2012
	(B @4,949.00usft (abo	ove Mean S	 ea	UWI: NE	E/NE/0/9/	S/21/E/36	/0/0/26/PM/N/681/E/0/715/0/0
_evel)							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
10/13/2012	6:00 - 16:00	6.00	DRLPRV	02	В	P	DRILL /SLIDE / SURVEY/ F/ 5,155'- 6,070' = 915' @152.5 FPH WOB 22,000-24,000 TOP DRIVE RPM 50-75 MUD MOTOR RPM 90 PUMPS 124 SPM= 558GPM PUMP PRESSURE ON/OFF BTM 2,150 /1,970 TORQUE ON/OFF BTM 10,000/ 8,000 PICK UP WT 171,000 SLACK OFF WT 118,000 ROT WT 132,000 SLIDE 10' IN 15 MIN 1.44 % OF FOOTAGE DRILLED, .25 %OF HRS DRILLED MUD WT 8.7 VIS 27, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% SAWDUST NOV-D WATER SWACO OFF LINE 5-10' FLARE DRILL /SLIDE / SURVEY/ F/ 6,070'- 7,068' = 998' @99.8FPH WOB 22,000-24,000 TOP DRIVE RPM 50-75 MUD MOTOR RPM 90 PUMPS 124 SPM= 558GPM PUMP PRESSURE ON/OFF BTM 2,150 /1,970 TORQUE ON/OFF BTM 12,000/ 10,000 PICK UP WT 180,000 SLACK OFF WT 130,000 ROT WT 158,000 SLIDE 74' IN 135 MIN 3.75 % OF FOOTAGE DRILLED, 13,72 %OF HRS DRILLED MUD WT 8.8 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 3-4% SAWDUST NOV-D WATER SWACO OFF LINE 5-10' FLARE
	16:00 - 16:30	0.50	DRLPRV	07	Α	Р	FLUID LOST 110 BBL SERVICE RIG

						KIES R Summa	EGION ary Report	
Well: MORGAN	STATE 921-36H1CS	RED	A. 1871-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			***************************************	Spud Date: 8/12	2/2012
Project: UTAH-U	JINTAH		Site: MOF	RGAN ST	ATE 921	-36A PAE	)	Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	 3		Start Date	e: 7/19/2012				End Date: 10/18/2012
Active Datum: R	Active Datum: RKB @4,949.00usft (above Mean Sea Level)					/S/21/E/36	3/0/0/26/PM/N/681	/E/0/715/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	16:30 - 0:00	7.50	DRLPRV	02	В	P		DRILL /SLIDE / SURVEY/ F/7,068'- 7,720' = 652'  @86.93FPH  WOB 22,000-28,000  TOP DRIVE RPM 50-75  MUD MOTOR RPM 90  PUMPS 124 SPM= 558GPM  PUMP PRESSURE ON/OFF BTM 2,300 /2,050  TORQUE ON/OFF BTM 17,000/ 16,000  PICK UP WT 215,000  SLACK OFF WT 140,000  ROT WT 170,000  SLIDE 10' IN 20 MIN 1.53 % OF FOOTAGE DRILLED, 4.76 %OF HRS DRILLED  MUD WT 8.7 VIS 28,  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM  NOV-D WATER  SWACO OFF LINE 5-10' FLARE  FLUID LOST 150 BBL
10/14/2012	0:00 - 6:30	6.50	DRLPRV	02	В	P		DRILL /SLIDE / SURVEY/ F/7,720'- 8,297' = 557' @ 88.77 FPH  WOB 23,000-28,000  TOP DRIVE RPM 50-75  MUD MOTOR RPM 90  PUMPS 124 SPM= 558GPM  PUMP PRESSURE ON/OFF BTM 2,300 /2,050  TORQUE ON/OFF BTM 17,000/ 16,000  PICK UP WT 215,000  SLACK OFF WT 148,000  ROT WT 175,000  SLIDE 10' IN 25 MIN 2.49 % OF FOOTAGE DRILLED, 6.94 %OF HRS DRILLED  MUD WT 8.6 VIS 28,  PUMPING 5-10 BBL SWEEPS EVERY STAND,W/4-8% LCM  NOV-D WATER  SWACO OFF LINE 5-10' FLARE  FLUID LOST 100 BBL
	6:30 - 7:00	0.50	DRLPRV	22	L	Z		***TROUBLE SHOOT MWD- NO SIGNAL ***

10:15:38AM 3/18/2013

6

Well: MORGAN	STATE 921-36H1CS	RED					Spud Date: 8/1	
Project: UTAH-U	INTAH		Site: MOF	RGAN ST	ATE 921	-36A PAI		Rig Name No: PROPETRO 11/11, H&P 298/298
Event: DRILLING	<del></del>	_	Start Date	: 7/19/20	012			End Date: 10/18/2012
Active Datum: RI Level)	KB @4,949.00usft (ab	ove Mean S	ea	UWI: N	1/E/0/715/0/0			
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:00 17:00 - 17:30 17:30 - 0:00	0.50 6.50	DRLPRV DRLPRV DRLPRV	07 02	B B	P P		DRILL /SLIDE / SURVEY/ F/ 8,297'- 8,864' = 567' @ 56.7 FPH WOB 24,000-28,000 TOP DRIVE RPM 50-75 MUD MOTOR RPM 90 PUMPS 124 SPM= 558GPM PUMP PRESSURE ON/OFF BTM 2,410 /2,300 TORQUE ON/OFF BTM 17,000/ 16,000 PICK UP WT 223,000 SLACK OFF WT 158,000 ROT WT 187,000 SLIDE 80' IN 140 MIN 5.64 % OF FOOTAGE DRILLED, 13.81%OF HRS DRILLED MUD WT 8.6 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM NOV-D WATER SWACO ON LINE 150 TO 300 PSI ON ANNULUS 5-10' FLARE NO FLUID LOSS SERVICE RIG @ 8,864' DRILL /SLIDE / SURVEY/ F/ 8,864'- 9,242' = 378' @ 58.15 FPH WOB 24,000-28,000 TOP DRIVE RPM 55-75 MUD MOTOR RPM 79 PUMPS 110 SPM= 495GPM PUMP PRESSURE ON/OFF BTM 2,100 /1,850 TORQUE ON/OFF BTM 19,000/ 18,000 PICK UP WT 235,000 SLACK OFF WT 158,000 ROT WT 192,000 SLIDE 26' IN 60 MIN 6.88 % OF FOOTAGE DRILLED, 14.25%OF HRS DRILLED MUD WT 8.7 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM NOV-D WATER SWACO ON LINE 150 TO 300 PSI ON ANNULUS 5-15' FLARE

# 

Well: MORGAN	STATE 921-36H1CS F	RED				Sp	ud Date: 8/12/2012				
Project: UTAH-U			Site: MOI	RGAN ST	ATE 921	-36A PAD	Rig Name No: PROPETRO 11/11, H&P 298/298				
Event: DRILLING	 }		Start Date	e: 7/19/20	)12		End Date: 10/18/2012				
Active Datum: R _evel)	KB @4,949.00usft (ab	ove Mean S	ea	UWI: NI	UWI: NE/NE/0/9/S/21/E/36/0/0/26/PM/N/681/E/0/715/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)				
10/15/2012	0:00 - 17:00 17:00 - 17:30 17:30 - 0:00	0.50 6.50	DRLPRV DRLPRV DRLPRV	07 07 02	АВ	P P P	DRILL / SURVEY/ F/ 9,242'- 9,998' = 756' @ 44.47 FPH WOB 24,000-28,000 TOP DRIVE RPM 55-75 MUD MOTOR RPM 79 PUMPS 110 SPM= 495GPM PUMP PRESSURE ON/OFF BTM 2300/2100 TORQUE ON/OFF BTM 20,000/ 18,000 PICK UP WT 268,000 SLACK OFF WT 155,000 ROT WT 206,000 MUD WT 8.7 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM NOV-D WATER SWACO ON LINE 150 TO 300 PSI ON ANNULUS 10-20' FLARE NO FLUID LOSS SERVICE RIG @ 9,998'  DRILL / SURVEY/ F/ 9,998- 10,250' = 252' @ 38.76 FPH WOB 24,000-28,000 TOP DRIVE RPM 55-75 MUD MOTOR RPM 79 PUMPS 110 SPM= 495GPM PUMP PRESSURE ON/OFF BTM 2300/2100 TORQUE ON/OFF BTM 20,000/ 18,000 PICK UP WT 280,000 SLACK OFF WT 155,000 ROT WT 207,000 MUD WT 8.7 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM NOV-D WATER SWACO ON LINE 150 TO 300 PSI ON ANNULUS 10-20' FLARE NO FLUID LOSS				

			90		ili, se ili	KIES RI	#4.45.51 Per 4		
		1 година и под	nr st	Opera	tion S	umma	ry Report		
	STATE 921-36H1C	S RED					Spud Date: 8/12		
Project: UTAH-L	JINTAH		Site: MOI	RGAN ST	ATE 921-	36A PAD		Rig Name No: PROPETRO 11/11, H&P 298/298	
Event: DRILLING	<u> </u>		Start Date	e: 7/19/20	12			End Date: 10/18/2012	
Active Datum: R Level)	KB @4,949.00usft (a	above Mean Se	ea	UWI: NE	E/NE/0/9/	S/21/E/36	/0/0/26/PM/N/681	/E/0/715/0/0	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U -	MD From (usft)	Operation	
10/16/2012	9:30 - 16:30	9.50	DRLPRV	02	В	P		DRILL / SURVEY/ F/ 10,250'- 10,563' = 313' @ 32.95 FPH WOB 26,000-28,000 TOP DRIVE RPM 55-75 MUD MOTOR RPM 79 PUMPS 110 SPM= 495GPM PUMP PRESSURE ON/OFF BTM 2300/2100 TORQUE ON/OFF BTM 20,000/ 18,000 PICK UP WT 280,000 SLACK OFF WT 155,000 ROT WT 207,000 MUD WT 8.7 VIS 28, PUMPING 5-10 BBL SWEEPS EVERY STAND,W/ 4-8% LCM NOTE PCL (FIBER OPTIC ) SHUTTING DOWN RIG FOR A FEW MINUTES SEVERAL TIMES START DISPLACING WELL BORE @ 10,400' WITH 10.5 PPG WITH NO PROBLEMS INCREASE MUD WT IN .3 PPG INCREAMENTS TO 11.2 LOST TOTAL RETURNS 100 BBL LOSS MI SWACO ON & OFF LINE 5 TO 15' FLARE ATTEMPT TO TAKE MI OFF LINE 30 BBL GAIN NO RETURNS ATTEMPT TO PULL OFF BTM PIPE STUCK ,NO ROTATION NO RETURNS HOLE PACKED OFF, CONTINUE TO WORK PIPE AT MANY DIFFERENT PARAMETERS MAX OP 424K WT INDICATOR READING / PIPE FREE @ 10,528' CONTINUE TO WORK TIGHT HOLE TO 10,468' 500 BBL MUD LOSS	
	16:30 - 19:00	2.50	DRLPRV	05	Α	Р		*** STUCK PIPE WORK TIGHT HOLE *** CIRC & CONDITION MUD RAISING MUD WT TO 11.8PPG VIS 42 LCM 15%	
	19:00 - 21:30	2.50	DRLPRV	22	К	x		CHANGE OUT PISTIONS & VALVES IN BOTH MUD PUMPS / 115 BBL MUD LOSS MEANWHILE CONTINUE TO ROTATE & PUMP WITH CRIPPLED PUMP WHILE WORKING ON PUMPS BACK AND FORTH *** WORK ON MUD PUMPS ***	
	21:30 - 23:00	1.50	DRLPRV	02	В	P		DRILL FROM 10,563' TO 10,605' TD WOB 26,000-30,000 TOP DRIVE RPM 55-75 MUD MOTOR RPM 79 PUMPS 80 SPM= 360GPM PUMP PRESSURE ON/OFF BTM 2050/1800 TORQUE ON/OFF BTM 16,000/ 15,000 PU 235 S/O 184 ROT 207 MUD LOSS 300 BBL	
	23:00 - 0:00	1.00	DRLPRV	05	С	P		CIRC BTM'S UP @ 10,605' TD	
10/17/2012	0:00 - 4:00	4.00	DRLPRV	06	E	P		WIPER TRIP (35 STD ) FROM 10,605' TO 7,320'	
	4:00 - 4:30	0.50	DRLPRV	07	Α	P		SERVICE RIG @ 7,320'	

### Operation Summary Report

Spud Date: 8/12/2012 Well: MORGAN STATE 921-36H1CS RED Rig Name No: PROPETRO 11/11, H&P 298/298 Site: MORGAN STATE 921-36A PAD Project: UTAH-UINTAH

Event: DRILLING	Start Date	:: 7/19/20	12		End Date: 10/18/2012				
Active Datum: RKB @4,949.0	Ousft (above Mean	Sea	UWI: NE	E/NE/0/9/	S/21/E/36	/0/0/26/PM/N/681/	E/0/715/0/0		
Level)	·	i		_					
Date Time Start-E	(2) (2) (2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
28	9:30 5.00	DRLPRV		<u> </u>			TIH WASHING & REAMING FROM 7,450' TO 8,150', TIH, WASH REAM @ 8,665', TIH, WASH LAST 3 STDS TO BOTTOM @ 10,605' - 5' FILL		
9:30 - 1	11:30 2.00	DRLPRV	05	Α	P		CIRCULATE & CONDITION MUD @ 10,605'		
11:30 - 1	19:00 7.50	DRLPRV	06	Α	Р		TOOH TO BIT WITH NO PROBLEMS		
19:00 - 2	21:00 2.00	DRLPRV	06	Α	Р		L/D DIRECTIONAL TOOLS / MWD TOOLS PLUGGED WITH FINE SOLIDS UNABLE TO PULL MWD / LD TOOLS		
21:00 - 2	21:30 0.50	DRLPRV	07	Α	P		SERVICE RIG		
21:30 - 2	22:30 1.00	DRLPRV	14	В	Р		REMOVE BEARING ASSY PULL WEAR BUSHING		
22:30 -	0:00 1.50	DRLPRV	12	Α	P		PJSM RU FRANKS CASING EQUIPMENT		
10/18/2012 0:00 -	6:00 6.00	CSGPRO	12	С	Р		RUN 4 1/2" PRODUCTION CASING TO 5,105'		
6:00 -	9:00 3.00	CSGPRO	22	F	X		ATTEMPT TO FILL CASING , CASING PLUGGED, UNPLUG CSG, CIRC & CONDITION MUD/ BARITE FALLING OUT VIS 35 WT 12.0 BRING VIS TO 42 MAKE 100 BBL 45 VIS SPOT SAME IN CASING COVERING FLOAT & SHOE  *** MUD PROBLEMS ***		
	14:30 5.50	CSGPRO	12	С	Р		CONTINUE TO RUN 4 1/2" CASING TO 10,595.81' / SHOE @ 10,595.81' / FLOAT @ 10,550.17" / BLACK HAWK MARKER @ 10,016' / M VERDE MARKER @ 7,334' / X-O @ 5,088' / 240 JTS RAN , LAND CASING HANGER WITH 110K		
14:30 - 1	16:00 1.50	CSGPRO	05	A	P		CIRULATE & CONDITION MUD @ 10,595' HOLE IN GOOD SHAPE / MEANWILE RIG DOWN FRANKS CASING EQUIPMENT / HOLD PRE JOB SAFETY MEETING WITH BJ CEMENTERS		
16:00 - 1		CSGPRO	12	E	P		INSTALL BJ CMT HEAD, TEST PUMP & LINES TO 5,000 PSI, DROP BOTTOM PLUG PUMP 25 BBLS FW PUMP 524 SKS LEAD CEMENT @ 12.5 PPG,(185 BBLS) (PREM LITE II + .0.25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 6% bwoc BENTONITE + 0.4 % R-3 + 0.2% bwoc FL-52 +.6% Soduim Metasilicate / (10.44 gal/sx, 1.98 yield) + 1,322 SX TAIL @ 14.3 ppg(313.54 BBLS)+ (CLS G 50/50 POZ + 10% SALT + .005 lbs/sx STATIC FREE +1.2%SMS + .09% R3 + .002 GPS FP-6L + 2% BENTONITE + 0.5%EC-1+ 59.1% FW / (5.94 gal/sx, 1.33 yield) WASH PUMP & LINES DROP TOP PLUG & DISPLACE W/ 164 BBLS H2O + ADDITIVES / PLUG DOWN @18:43 HOURS / FLOATS HELD W/ 2.5 BBLS H2O RETURNED TO INVENTORY/ / GOOD LIFT PRESSURE @ 3100PSI BUMP PRESSURE @3,700 / GOOD RETURNS SPACER TO SURFACE, NO CEMENT TO SURFACE /TOP OF TAIL CEMENT CALCULATED @ 4,170' / RIG DOWN BJ FLUSH BOP'S, ATTEMPT TO BREAK OUT RUNNING		
21:00 - 2		CSGPRO	14	A	P		TOOL PJSM NIPPLE DOWN BOP'S		
22:30 - 2		CSGPRO	14	В	s		CUT OFF RUNNING TOOL & LD SAME		
23:00 -		CSGPRO	12	A	P		RIG DOWN CASING BAILS ,CLEAN PITS RELEASE RIG @ 23:59 10/18/12		

#### 1 General

#### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

#### 1.2 Well/Wellbore Information

Well	MORGAN STATE 921-36H1CS RED	Wellbore No.	ОН
Well Name	MORGAN STATE 921-36H1CS	Wellbore Name	MORGAN STATE 921-36H1CS
Report No.	1	Report Date	12/5/2012
Project	UTAH-UINTAH	Site	MORGAN STATE 921-36A PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/5/2012	End Date	2/22/2013
Spud Date	8/12/2012	Active Datum	RKB @4,949.00usft (above Mean Sea Level)
UWI	NE/NE/0/9/S/21/E/36/0/0/26/PM/N/681/E/0/715/0/0		

#### 1.3 General

Contractor	 Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

#### 1.4 Initial Conditions

#### 1.5 Summary

Fluid Type		Fluid Density	Gi	ross interval	7,534.0 (usft)-10,415.0 (us	Start Date/Time	2/4/2013	12:00AM
Surface Press	"-	Estimate Res Press	No	o. of Intervals	66	End Date/Time	2/4/2013	12:00AM
TVD Fluid Top		Fluid Head	To	otal Shots	240	Net Perforation Interval		76.00 (usft)
Hydrostatic Press		Press Difference	A	vg Shot Density	3.16 (shot/ft)	Final Surface Pressure		
Balance Cond	NEUTRAL					Final Press Date		

### 2 Intervals

#### 2.1 Perforated Interval

Date	Formation/ CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	Sometrated	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete f (in)	Carr Type /Stage No.	Carr Size (in)	Phasing (°)	Charge Desc /Charge Charge Manufacturer Weight (gram)	Reason Misrun
2/4/2013	MESAVERDE/		7,534.0	7,536.0	3.00		0.360	EXP/	3.375	120.00	23.00	PRODUCTIO
12:00AM												N

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T	MD Top (usft)	MD Base (usft)	Shot Density	Misfires/ Add. Shot	Diamete	Carr Type /Stage No	Carr Size	Phasing (°)	Charge Desc/Charge Manufacturer	Charge Reason Weight	Misrun
73 F. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Reservoir	(usii)	(usft)	(usii)	Jusiy	(shot/ft)	Aud. Shot	r (in)		(in)	-	Manuacturer	(gram)	
2/4/2013 12:00AM	MESAVERDE/	**************************************	N	7,544.0	7,546.0	3.00	2.41	0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	2
2/4/2013 12:00AM	MESAVERDE/			7,622.0	7,624.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			7,644.0	7,646.0	3.00	2 2 2 2 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2	0.360	EXP/	3.375	120.00	Action and Action and Action with the Action and Action	23.00 PRODUCTIO N	AND THE PROPERTY OF THE PROPER
2/4/2013 12:00AM	MESAVERDE/			7,810.0	7,812.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
	MESAVERDE/			7,870.0	7,872.0	3.00	-	0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
	MESAVERDE/			7,968.0	7,970.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			7,986.0	7,988.0	3.00		0.360	EXP/	3.375	120.00	VVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV	23.00 PRODUCTIO N	
THE RESERVE OF THE PARTY OF THE	MESAVERDE/		•	8,054.0	8,055.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
CONTRACTOR	MESAVERDE/	No. 14-14-14-14-14-14-14-14-14-14-14-14-14-1		8,074.0	8,075.0	3.00	300	0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	11100011141.114.00.00.00.00.00.00.00
2/4/2013 12:00AM	MESAVERDE/			8,110.0	8,111.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
	MESAVERDE/	1111		8,184.0	8,185.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,204.0	8,205.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,238.0	8,239.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,254.0	8,255.0	3.00		0.360	EXP/	3.375	120.00	AND THE PROPERTY OF THE PROPER	23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/	1		8,269.0	8,270.0	3.00		0,360	EXP/	3.375	120.00		23.00 PRODUCTIO N	powerfield a common and property of the
2/4/2013 12:00AM	MESAVERDE/			8,302.0	8,303.0	3.00	consuper manuscript	0.360	EXP/	3.375	120.00	and the second s	23.00 PRODUCTIO N	The second second second second
2/4/2013 12:00AM	MESAVERDE/	44,100		8,320.0	8,321.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,344.0	8,345.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,370.0	8,371.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2/4/2013 12:00AM	MESAVERDE/		111111111111111111111111111111111111111	8,403.0	8,404.0	3.00	Page 111 Hamiltonia	0.360	EXP/	3.375	120.00	0.0000000000000000000000000000000000000	23.00 PRODUCTIO N	***************************************
2/4/2013 12:00AM	MESAVERDE/		and the state of t	8,424.0	8,425.0	3.00		0.360	EXP/	3.375	120.00		23.00 PRODUCTIO N	

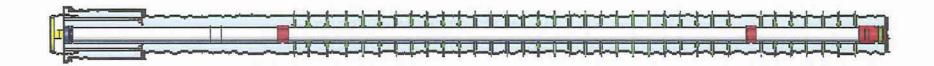
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/4/2013 12:00AM	MESAVERDE/	:		8,467.0	8,468.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,482.0	8,483.0	3.00	TO THE REAL PROPERTY.	0.360	EXP/	3.375	120.00	4	23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,531.0	8,532.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	!
2/4/2013 12:00AM	MESAVERDE/			8,546.0	8,548.0	3.00	W/ 10	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	is a second common
2/4/2013 12:00AM	MESAVERDE/	ı		8,572.0	8,573.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	A del bashon
2/4/2013 12:00AM	MESAVERDE/			8,594.0	8,595.0	3.00	THE SHEET COMMISSION OF THE SHEET	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,606.0	8,607.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	1.Philiphi
2/4/2013 12:00AM	MESAVERDE/			8,625.0	8,626.0	3.00		0.360	EXP/	3.375	120.00	· · · · · · · · · · · · · · · · · · ·	23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/		7	8,643.0	8,644.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/	:		8,781.0	8,782.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,792.0	8,793.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	<u> </u>
2/4/2013 12:00AM	MESAVERDE/			8,809.0	8,810.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	. (4) 4004
2/4/2013 12:00AM	MESAVERDE/		:	8,825.0	8,826.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,848.0	8,849.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	1
2/4/2013 12:00AM	MESAVERDE/			8,864.0	8,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,893.0	8,894.0	3.00		0.360	EXP/	3.375	120.00	THE STATE OF THE S	23.00	PRODUCTIO N	A contraction to the second second
2/4/2013 12:00AM	MESAVERDE/			8,909.0	8,910.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,936.0	8,938.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			8,984.0	8,985.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,000.0	9,001.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,027.0	9,028.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/4/2013 12:00AM	MESAVERDE/			9,045.0	9,046.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,054.0	9,055.0	3.00		0.360	EXP/	3.375	120.00	1	23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/	MILES SMILLING STATES STATES A		9,070.0	9,071.0	3.00		0.360	EXP/	3.375	120.00	. I seems also not appropriate the contract of	23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/	and the second section is a second section of the second		9,093.0	9,094.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,105.0	9,106.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,170.0	9,171.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/	1		9,193.0	9,194.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,218.0	9,219.0	3.00	v	0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			9,234.0	9,235.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	s (*11 talahatatata
2/4/2013 12:00AM	MESAVERDE/			9,266.0	9,267.0	3.00		0.360	EXP/	3.375	120.00	January III.	23.00	PRODUCTIO N	!
2/4/2013 12:00AM	MESAVERDE/			9,314.0	9,315.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,097.0	10,098.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/		om out of the state of the stat	10,104.0	10,105.0	4.00	dedesiment the control of	0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	Po-t-t-t
2/4/2013 12:00AM	MESAVERDE/			10,120.0	10,121.0	4.00	The state of the s	0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,135.0	10,136.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,143.0	10,144.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,160.0	10,161.0	4.00	atti ataina ta	0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,197.0	10,198.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,220.0	10,221.0	4.00		0.360	EXP/	3.375	90.00	***************************************	23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,270.0	10,271.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,283.0	10,284.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/4/2013 12:00AM	MESAVERDE/			10,319.0	10,320.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/4/2013 12:00AM	MESAVERDE/			10,414.0	10,415.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

### 3 Plots

#### 3.1 Wellbore Schematic



Well: MORGAN	STATE 92	21-36H1CS I	RED		- 1451 334			Spud Date: 8/12/2012
Project: UTAH-I	JINTAH			Site: MOI	RGAN S1	TATE 921	-36A PAD	Rig Name No:
Event: COMPLE	ETION			Start Dat	e: 12/5/20	012	T	End Date: 2/22/2013
Active Datum: F Level)	RKB @4,94	19.00usft (ab	ove Mean Se	a	UWI: N	E/NE/0/9/	S/21/E/36	/0/0/26/PM/N/681/E/0/715/0/0
Date		rime nrt-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
8/12/2012 12/5/2012 12/6/2012	9:30	- 10:00 -	0.50	FRAC	33	С	Þ	RU HOT OILER, SURFACE HAS SLIGHT MIGRATION PRESSURED 8 5/8" X 4 1/2" ANNULAR TO 1500 PSI COULD NOT INJECT INTO SURFACE BLED WELL DOWN WILL INSTALL POP OFF ON SURFACE
1/31/2013	12:00	- 13:00	1.00	SUBSPR	33	С	P	FILL SURFACE CSG. MIRU CAMERON QUICK TEST. 1ST PSI TEST T/ 9000 PSI. HELD FOR 15 MIN LOST 42 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI.SWIFN
2/1/2013	7:00	- 12:00	5.00	SUBSPR	37		Р	NOTE: TESTED SURFACE ON 12-05-12 COULDN'T PUMP DOWN PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWFW

P

2/4/2013

6:45 - 7:00

0.25

FRAC

48

HSM, HIGH PRESSURE LINES & OVER HEAD LOADS

3/18/2013 10:21:57AM

GII. IVIOTOMIN	STATE 921-36H1CS F	RED					Spud Date: 8/1	2/2012
oject: UTAH-UI	NTAH		Site: MOI	RGAN ST	ATE 921	1-36A PAD		Rig Name No:
	ΓΙΟΝ		Start Dat	e: 12/5/20	)12			End Date: 2/22/2013
 ctive Datum: Rk evel)	(B @4,949.00usft (ab	ove Mean Se	a	UWI: NI	E/NE/0/9	/S/21/E/36/	)/0/26/PM/N/68	1/E/0/715/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 17:30	10.50	FRAC	36	В	P		PRESSURE TEST SURFACE LINES TO 9446# W/ NO MAJOR LEAKS, BLEED PRESSURE OFF, PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 TLC IN 1ST TWO STAGES AND 30/50 MESH IN ALL REMAINING & SLK WTR.  ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICL VOLUME PUM'D  FRAC STG #1] WHP=1,140#, BRK DN PERFS=4,448#, @=5.3 BPM, INJ RT=51.4, INJ PSI=6,008#, INITIAL ISIP=3,484#, INITIAL FG=.78, FINAL ISIP=3,671#, FINAL FG=.79, AVERAGE RATE=50.7, AVERAGE PRESSURE=6,245#, MAX RATE=52, MAX PRESSURE=7,425#, NET PRESSURE INCREASE=187#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=10,171', PERF LOWER MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW  FRAC STG #2] WHP=2,709#, BRK DN
								PERFS=5,554#, @=4 BPM, INJ RT=51.2, INJ PSI=6,047#, INITIAL ISIP=2,982#, INITIAL FG=.73, FINAL ISIP=3,790#, FINAL FG=.80, AVERAGE RATE=51.3, AVERAGE PRESSURE=6,080#, MAX RATE=52, MAX PRESSURE=7,291#, NET PRESSURE INCREASE=808#,23/24 96% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,345', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #3] WHP=1,532#, BRK DN PERFS=2,402#, @=2.2 BPM, INJ RT=51, INJ PSI=5,308#, INITIAL ISIP=2,147#, INITIAL FG=.67, FINAL ISIP=2,974#, FINAL FG=.76, AVERAGE RATE=51.1, AVERAGE PRESSURE=5,377#, MAX RATE=51.7, MAX PRESSURE=5,867#, NET PRESSURE INCREASE=827#, 21/24 100 CALC PERFS OPEN. X OVER TO WIRE LINE
			<b>-</b>			_		PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,081', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWIFN.
2/5/2013	7:00 - 7:15	0.25	FRAC	48		Р		HSM, OPENING / CLOSEING VALVES

Neii: MORGAI	N STATE 921-36H1CS	RED					Spud Date: 8/	12/2012
Project: UTAH	-UINTAH		Site: MC	RGAN ST	ATE 921	-36A PA	D	Rig Name No:
Event: COMPL	ETION		Start Da	te: 12/5/20	12			End Date: 2/22/2013
Active Datum: _evel)	RKB @4,949.00usft (a	bove Mean Se	ea	UWI: NE	E/NE/0/9	/S/21/E/3	6/0/0/26/PM/N/68	31/E/0/715/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:45 - 17:00	9.25	FRAC	36	В	P		FRAC STG #4] WHP=2,210#, BRK DN PERFS=3,272#, @=5.1 BPM, INJ RT=50.2, INJ PSI=5,164#, INITIAL ISIP=2,533#, INITIAL FG=.72, FINAL ISIP=3,120#, FINAL FG=.79, AVERAGE RATE=50.4, AVERAGE PRESSURE=5,450#, MAX RATE=50.9, MAX PRESSURE=5,870#, NET PRESSURE INCREASE=587#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,920', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #5] WHP=2,613#, BRK DN PERFS=3,241#, @=5.1 BPM, INJ RT=47.2, INJ PSI=4,872#, INITIAL ISIP=2,584#, INITIAL FG=.73, FINAL ISIP=2,845#, FINAL FG=.76, AVERAGE RATE=50.1, AVERAGE PRESSURE=5,239#, MAX RATE=50.9, MAX PRESSURE=6,231#, NET PRESSURE INCREASE=261#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,674', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #6] WHP=1,500#, BRK DN PERFS=3,741#, @=4.8 BPM, INJ RT=51.8, INJ PSI=4,701#, INITIAL ISIP=2,220#, INITIAL FG=.70, FINAL ISIP=2,513#, FINAL FG=.73, AVERAGE RATE=51.5, AVERAGE PRESSURE=4,915#, MAX RATE=52.7, MAX PRESSURE=6,524#, NET PRESSURE INCREASE=293#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,513', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #7] WHP=1,612#, BRK DN PERFS=3,228#, @=5 BPM, INJ RT=, INJ PSI=#, INITIAL ISIP=#, INITIAL FG=., FINAL ISIP=2,697#, FINAL FG=.76, AVERAGE RATE=51.6, AVERAGE PRESSURE=4,982#, MAX RATE=52.2, MAX PRESSURE=5,575#, NET PRESSURE INCREASE=692#, 23/24 96% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,280', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWIFN

Well: MORGAN	STATE	921-36H1CS	RED					Spud Date: 8/12	2/2012
Project: UTAH-U	HATMI			Site: MOF	RGAN S	TATE 921	-36A PAD		Rig Name No:
Event: COMPLE	TION			Start Date	= : 12/5/2	012			End Date: 2/22/2013
Active Datum: R	KB @4,	949,00usft (al	bove Mean Se	ea	UWI: N	E/NE/0/9	/S/21/E/36	/0/0/26/P <b>M/N/</b> 681	/E/0/715/0/0
Date	s	Time tart-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/6/2013	6:30 6:45	- 6:45 - 14:00	0.25 7.25	FRAC FRAC	48 36	В	₽ P		HSM, OVER HEAD LOADS / RIGGING DOWN FRAC STG #8] WHP=1,777#, BRK DN PERFS=3,000#, @=51 BPM, INJ RT=51.9, INJ PSI=4,834#, INITIAL ISIP=1,901#, INITIAL FG=.67, FINAL ISIP=2,658#, FINAL FG=.76, AVERAGE RATE=51.5, AVERAGE PRESSURE=5,092#, MAX RATE=52.1, MAX PRESSURE=5,859#, NET PRESSURE INCREASE=757#, 22/24 92% CALC PERFS OPEN. X OVER TO WIRE LINE
									PERF STG #9] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,018', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
									FRAC STG #9] WHP=2,288#, BRK DN PERFS=2,872#, @=5.1 BPM, INJ RT=51.2, INJ PSI=5,641#, INITIAL ISIP=2,479#, INITIAL FG=.75, FINAL ISIP=2,,901#, FINAL FG=.81, AVERAGE RATE=51.4, AVERAGE PRESSURE=5,379#, MAX RATE=52.1, MAX PRESSURE=5,981#, NET PRESSURE INCREASE=422#, 19/24 79% CALC PERFS OPEN. X OVER TO WIRE LINE
									PERF STG #10] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,676', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
									FRAC STG #10] WHP=771#, BRK DN PERFS=2,990#, @=4.3 BPM, INJ RT=51.7, INJ PSI=5,095#, INITIAL ISIP=1,902#, INITIAL FG=.69, FINAL ISIP=2,265#, FINAL FG=.74, AVERAGE RATE=51.5, AVERAGE PRESSURE=4,860#, MAX RATE=52.3, MAX PRESSURE=6,050#, NET PRESSURE INCREASE=363#, 19/24 79% CALC PERFS OPEN. X OVER TO WIRE LINE
									P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,484'
									TOTAL FLUID PUMP'D=14,362 bbls TOTAL SAND PUMP'D=309,961#
2/21/2013	7:00 8:30	- 8:30 - 9:00	1.50 0.50	COMP	30 48	G	P P		RIG DWN F/ 921-36H1BS & MIRU ON THE 921-36H1CS HSM, REVIEW RU & PU TBG F/ TRAILER
	9:00	- 9:30	0.50	COMP	30	F	P		ND WH, NU 10K BOP'S, RU FLOOR & TBG
	9:30	- 15:00	5.50	COMP	31	I	Р		EQUIPMENT. PU 3-7/8 BIT, POBS W/ 1.875 XN, PU RIH 235 JTS. P-110 TBG F/ TRAILER, TALLY TBG, TAG SAND @ 7467', POOH & LD 3 JTS.NU PWR SWVL, DRAIN LINES & PUMP, SWI, SDFN.
2/22/2013	7:00	- 7:15	0.25	COMP	48		P		HSM, REVIEW D/O PLUGS
	7:15	- 8:00	0.75	COMP	33	D	Р		PU 3 JTS. TBG, BRK CIRC, P.T. BOP'S TO 3000 PSI. FOR 15 MINS, HELD.

Well: MORGAN	STATE 921-36H1CS	RED					Spud Date: 8	/12/2012
Project: UTAH-l	JINTAH		Site: MOI	RGAN STA	ATE 921-	-36A PAE		Rig Name No:
Event: COMPLE			Start Date	e: 12/5/20	12			End Date: 2/22/2013
	RKB @4,949.00usft (a	bove Mean Se		· · · · · · · · · · · · · · · · · · ·		S/21/E/36	/0/0/26/PM/N/6	81/E/0/715/0/0
Level)								
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 15:00	7.00	COMP	44	C	P		C/O 17' SAND, TAG PLUG # 1 @ 7484' D/O HAL 8K CBP IN 5 MINS, 0 PSI. INCREASE, FCP. 0 PSI. RIH TAG SAND @ 7656'.  C/O 20' SAND, TAG PLUG # 2 @ 7676' D/O HAL 8K CBP IN 7 MINS, 300 PSI. INCREASE, FCP.150 PSI. RIH TAG SAND @ 7998'.  C/O 20' SAND, TAG PLUG # 3 @ 8018' D/O HAL 8K CBP IN 6 MINS, 400 PSI. INCREASE, FCP. 450 PSI. RIH TAG SAND @ 8260'.  C/O 20' SAND, TAG PLUG # 4 @ 8280' D/O HAL 8K CBP IN 6 MINS, 150 PSI. INCREASE, FCP. 400 PSI. RIH TAG SAND @ 8468'.  C/O 45' SAND, TAG PLUG # 5 @ 8513' D/O HAL 8K CBP IN 8 MINS, 700 PSI. INCREASE, FCP.1450 PSI. RIH TAG SAND @ 8744'.  C/O 30' SAND, TAG PLUG # 6 @ 8674' D/O HAL 8K CBP IN 10 MINS, 400 PSI. INCREASE, FCP. 550 PSI. RIH TAG SAND @ 8905'.  C/O 15' SAND, TAG PLUG # 7 @ 8920' D/O HAL 8K CBP IN 8 MINS, 0 PSI. INCREASE, FCP. 700 PSI. RIH TAG SAND @ 9066'.  C/O 15' SAND, TAG PLUG # 8 @ 9081' D/O HAL 8K CBP IN 5 MINS, 0 PSI. INCREASE, FCP. 475 PSI. RIH TAG SAND @ 9320'.  C/O 25' SAND, TAG PLUG # 9 @ 9345' D/O HAL 8K CBP IN 5 MINS, 500 PSI. INCREASE, FCP. 850 PSI. RIH TAG SAND @ 10,146'.  C/O 25' SAND, TAG PLUG # 10 @ 10,171' D/O HAL 8K CBP IN 5 MINS, 500 PSI. INCREASE, FCP. 625 PSI. RIH TAG SAND @ 10,146'.  C/O 25' SAND, TAG PLUG # 10 @ 10,171' D/O HAL 8K CBP IN 5 MINS, 0 PSI INCREASE, FCP. 625 PSI. RIH TAG SAND @ 10,146'.  C/O 25' SAND, TAG PLUG # 10 @ 10,0171' D/O HAL 8K CBP IN 5 MINS, 0 PSI INCREASE, FCP. 625 PSI. RIH & C/O TO 10,515'(100') BELOW BTM PERF @ 10,415' CIRC WELL CLEAN, RD PWR SWVL, POOH & LD 17 JTS. P-110 ON TRAILER, LAND TBG W/ 317 JTS. 2-3/8" P-110 TBG, EOT @ 10,073.42', RD FLOOR & TBG EQUIPMENT, ND BOP'S, NU WH, DROP BALL, PUMP BIT-OFF @ 1800 PSI. P. T. LINES TO 3000 PSI. F/ HAL 9000 TO W.H. HELD, TURN WELL OVER TO FBC, DRAIN LINES & PUMP, RDMO. MOVE TO THE NBU 921-26D1CS.
								KB
								26' HANGER
								83
								317 JTS. 2-3/8" P-110 TBG
								-10,044.39' POBS W/ 1.875 XN
								2.20'
								EOT@
								-10,073.42'
								TOP PERF @ 7534' BTM PERF @ 10,415'
								PBTD @ 10,549'
								C/O TO 10,515'
								TWTR. 14,362 BBLS.

#### **US ROCKIES REGION Operation Summary Report** Spud Date: 8/12/2012 Well: MORGAN STATE 921-36H1CS RED Project: UTAH-UINTAH Site: MORGAN STATE 921-36A PAD Rig Name No: End Date: 2/22/2013 Event: COMPLETION Start Date: 12/5/2012 UM: NE/NE/0/9/S/21/E/36/0/0/26/PM/N/681/E/0/715/0/0 Active Datum: RKB @4,949.00usft (above Mean Sea Level) Operation Date Phase Code Sub P/U MD From Duration Time Start-End Code (usft) (hr) TWR. 2,390 BBLS. TWLTR. 11,972 BBLS. LAT: 39.997867 LONG: 109.493202 DELIVERED 334 JTS. 2-3/8"P-110 TBG. USED 317 JTS. 2-3/8"P-110 TBG. RETURN 17 JTS. 2-3/8"P-110 TBG.

3/18/2013 10:21:57AM

6

Project: UTAH - UTM (feet), NAD27, Zone 12N Site: UINTAH\_MORGAN STATE 921-36A PAD Well: MORGAN STATE 921-36H1CS Wellbore: MORGAN STATE 921-36H1CS Section: SHL: Design: MORGAN STATE 921-36H1CS (wp02) Latitude: 39.997902 Longitude: -109.492516 GL: 4923.00 KB: 16'RKB+4923'GL @ 4938.00ft WELL DETAILS: MORGAN STATE 921-36H1CS 4923.00 Latittude 39.997902 Ground Level:

Easting 2062621.57

E/-W Northing 0.00 14528850.90

+E/-W

+N/-S 0.00

	FORMATION	TOP DETAILS	
TVDPath	MDPath	Formation	
1221.00	1230.97	GREEN RIVER	
1565.00	1594.11	BIRDS NEST	
2023.00	2082.54	MAHOGANY MARKER	
4505.00	4671.79	WASATCH	
5105.00	5271.79	INTERCEPT	
7174.00	7340.82	MESAVERDE	
9333.00	9499.84	SEGO	
9402.00	9568.84	CASTLEGATE	
9839.00	10005.84	BLACKHAWK	

**CASING DETAILS** Size TVD MD Name

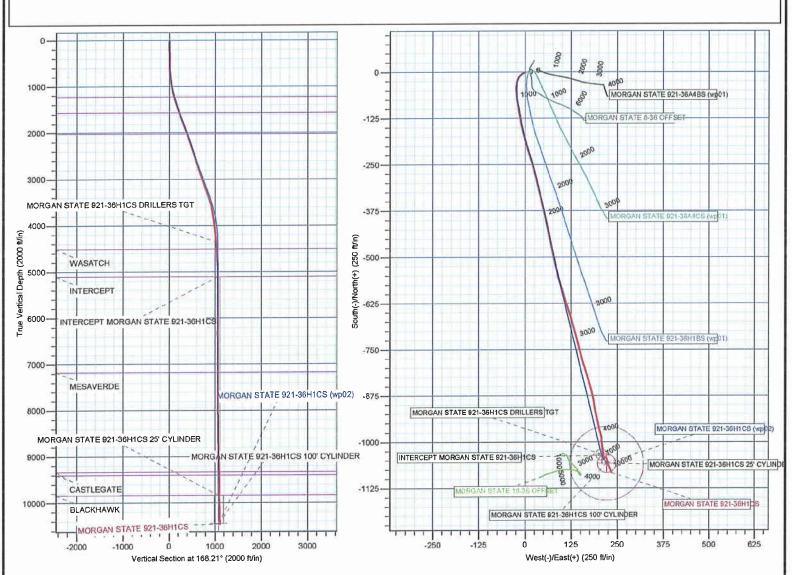
Azimuths to True North Magnetic North: 10.90° Magnetic Field Strength: 52199.5snT Dip Angle: 65.83\* Date: 10/4/2012 Model: IGRF2010

			DESIGN TA	ARGET DETAILS				
Name MORGAN STATE 921-36H1CS DRILLERS TGT INTERCEPT MORGAN STATE 921-36H1CS MORGAN STATE 921-36H1CS 25' CYLINDER MORGAN STATE 921-36H1CS 100' CYLINDER	TVD 4357.00 5105.00 9839.00 10439.00	+N/-S -1034.00 -1036.80 -1058.03 -1058.03	+E/-W 206.75 208.38 220.75 220.75	Northing 14527820.55 14527817.78 14527796.76 14527796.76	Easting 2062845.78 2062847.46 2062860.18 2062860.18	Latitude 39.995063 39.995055 39.994997 39.994997	-109.491772 -109.491728	Shape Circle (Radius: 15.00) Point Circle (Radius: 25.00) Circle (Radius: 100.00

Slot

Longitude -109.492516

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
2537.00	18.29	166.32	2451.52	-533.95	85.21	0.00	0.00	540.10	
2641.69	20.38	166.34	2550.30	-567.63	93.40	2.00	0.19	574.74	
3504.60	20.38	166.34	3359.17	-859.68	164.38	0.00	0.00	875.14	
4523.79	0.00	0.00	4357.00	-1034.00	206.75	2.00	180.00	1054.43	
4611.74	0.26	149.78	4444.95	-1034.17	206.85	0.30	149.78	1054.62	
10605.85	0.26	149.78	10439.00	-1058.03	220.75	0.00	0.00	1080.81	



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_MORGAN STATE 921-36A PAD MORGAN STATE 921-36H1CS

**MORGAN STATE 921-36H1CS** 

Design: MORGAN STATE 921-36H1CS

# **Standard Survey Report**

24 October, 2012

Survey Report

US ROCKIES REGION PLANNING Company: Project: UTAH - UTM (feet), NAD27, Zone 12N Site: **UINTAH\_MORGAN STATE 921-36A PAD** MORGAN STATE 921-36H1CS Well: MORGAN STATE 921-36H1CS Wellbore:

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: **Survey Calculation Method:** Database:

Well MORGAN STATE 921-36H1CS 15'RKB+4923'GL @ 4938.00ft 15'RKB+4923'GL @ 4938.00ft

True Minimum Curvature

edmp

UTAH - UTM (feet), NAD27, Zone 12N Project

MORGAN STATE 921-36H1CS

Map System: Geo Datum:

Map Zone:

Design:

Universal Transverse Mercator (US Survey Feet)

NAD 1927 (NADCON CONUS)

Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

UINTAH\_MORGAN STATE 921-36A PAD Site

14,528,850.91 usft 39,997902 Latitude: Northing: Site Position: -109.492516 2,062,621.57 usft Longitude: Lat/Long Easting: From: 0.97° 13-3/16 " Grid Convergence: Slot Radius: Position Uncertainty: 0.00 ft

Well MORGAN STATE 921-36H1CS 39.997902 14,528,850.91 usft Latitude: 0.00 ft Northing: Well Position +N/-S -109.492516 0.00 ft 2,062,621.57 usft Longitude: +E/-W Easting: Ground Level: 4,923.00 ft 0.00 ft Wellhead Elevation: ft **Position Uncertainty** 

MORGAN STATE 921-36H1CS Wellbore Field Strength Declination Dip Angle Sample Date Magnetics **Model Name** (nT) (°) (°) 52,200 65.83 10.90 **IGRF2010** 10/4/2012

MORGAN STATE 921-36H1CS Design Audit Notes: 11.00 1.0 **ACTUAL** Tie On Depth: Version: Phase: Direction +E/-W Vertical Section: Depth From (TVD) +N/-S (ft) (°) (ft) 170.93 11,00 0.00 0.00

Survey Program Date 10/24/2012 To From **Tool Name** Description (ft) Survey (Wellbore) (ft) 2,537.00 Survey #1 (MORGAN STATE 921-36H1CS MWD - STANDARD MWD 154.00 MWD - STANDARD 10,605.00 Survey #2 (MORGAN STATE 921-36H1CS MWD 2,658,00

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(ft) (°)	(°)	(ft)	(ft)	(ft)	(批)	(°/100usft)	(°/100usft)	(°/100usft)
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
154.00	0.18	119.12	154.00	-0.11	0.20	0.14	0.13	0.13	0.00
184.00	0.44	96.45	184.00	-0.15	0.35	0.20	0.94	0.87	-75.57
211.00	0.09	222,48	211.00	-0.17	0.44	0.24	1.85	-1.30	466.78
239.00	0.44	236.72	239.00	-0.25	0.34	0.30	1.26	1.25	50.86
267.00	0.53	217.47	267.00	-0.41	0.17	0.43	0.66	0.32	-68.75
350.00	1.93	248.15	349,98	-1.23	-1.36	1.00	1.81	1.69	36.96
440.00	2.99	241.55	439.89	-2.92	-4.83	2.12	1.22	1.18	-7.33
530.00	3,61	238,83	529,74	-5.50	-9.32	3.96	0.71	0.69	-3.02
620,00	5.28	223.19	619.47	-9.99	-14.58	7.56	2.28	1.86	-17.38

Survey Report

Company: Project: US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_MORGAN STATE 921-36A PAD MORGAN STATE 921-36H1CS

Site: Well: Wellbore:

Design:

MORGAN STATE 921-36H1CS MORGAN STATE 921-36H1CS Local Co-ordinate Reference:

TVD Reference:

MD Reference: North Reference:

Survey Calculation Method:

Database:

Well MORGAN STATE 921-36H1CS

15'RKB+4923'GL @ 4938.00ft 15'RKB+4923'GL @ 4938.00ft

True

Minimum Curvature

edmp

			rus Proje Schöler Spieleberg Schöle						enegeneers specie <u>sy</u> nopas
Measured Depth		Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	Inclination (°)	(°)	(n)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
710.00	6.16	202.97	709.03	-17.45	-19.30	14.19	2.43	0.98	-22.47
800.00	7.21	194.01	798.42	-27.38	-22.55	23.48	1.64	1.17	-9.96
890.00	8.79	181.00	887.55	-39.74	-24.04	35.45	2.66	1.76	-14.46
980.00	10.38	176.87	976.29	-54.71	-23.72	50.29	1.92	1.77	-4.59
1,070.00	11.87	172.21	1,064.60	-71.98	-22.02	67.61	1.93	1.66	-5.18
1,160.00	13.89	169.13	1,152.33	-91.76	-18.73	87.66	2.37	2.24	-3.42
1,250.00	15.74	171.59	1,239.34	-114.45	-14.90	110.67	2.17	2.06	2.73
1,340.00	17.32	169.92	1,325.62	-139.71	-10.77	136.27	1.83	1.76	-1.86
1,430.00	19.08	166.06	1,411.11	-167.18	-4.89	164.32	2.37	1.96	-4.29
1,520.00	20.75	162.63	1,495.73	-196.68	3.42	194.76	2.26	1.86	-3.81
1,610.00	20.93	162.63	1,579.84	-227.24	12.98	226.44	0.20	0.20	0.00
1,700.00	20,49	164.21	1,664.03	-257.74	22.06	257.99	0.79	-0.49	1.76
1,790.00	20.66	166.23	1,748.29	-288.32	30.13	289.46	0.81	0.19	2.24
1,880.00	21.46	166.58	1,832.28	-319.75	37.73	321.70	0.90	0.89	0.39
1,970.00	19.17	166.67	1,916.67	-350.15	44.96	352.86	2.54	-2.54	0.10
2,060.00	19.08	166.50	2,001.70	-378.83	51.80	382.26	0.12	-0.10	-0.19
2,150.00	19.35	168.25	2,086.69	-407.73	58.27	411.82	0.71	0.30	1.94
2,240.00	19.26	167.90	2,171.63	-436.84	64.42	441.54	0.16	-0.10	-0.39
2,330.00	20.31	168.17	2,256.32	-466.65	70.73	471.96	1.17	1.17	0.30
2,420.00	19.61	168.43	2,340.91	-496.73	76.96	502.65	0.78	-0.78	0.29
2,510.00	18.73	167.02	2,425.92	-525.61	83,24	532.16	1.10	-0.98	-1.57
2,537.00	18.29	166.32	2,451.52	-533.95	85.21	540.70	1.83	-1.63	-2.59
TIE ON						· · · · · · · · · · · · · · · · · · ·		144 A. 122 A	
2,658.00	16.70	163.55	2,566.92	-569.07	94.63	576.87	1.48	-1.31	-2.29
FIRST MWD S		하시다 사람들이				60 × 22322			1
2,752.00	17.98	163.64	2,656.65	-595.95	102.54	604.66	1.36	1.36	0.10
2,847.00	17.70	162.21	2,747.08	-623.77	111.08	633.48	0.55	-0.29	-1.51
2,941.00	18.50	161.68	2,836.43	-651.53	120.13	662.32	0.87	0.85	-0.56
3,036.00	20.31	163.56	2,926.03	-681.66	129.54	693.55	2.02	1.91	1.98
3,130.00	20.81	165.31	3,014.04	-713.45	138.39	726.35	0.84	0.53	1.86
3,225.00	20.69	166.56	3,102.88	<del>-</del> 746.10	146.57	759.88	0.48	-0.13	1.32
3,323.00	19.19	164.31	3,195.01	<i>-</i> 778.45	154.95	793.14	1.72	-1.53	-2.30
3,417.00	18.69	162.81	3,283.92	-807.71	163,58	823.40	0.74	-0.53	-1.60
3,511.00	18.56	162.93	3,372.99	-836.40	172.42	853.12	0.14	-0.14	0.13
3,606.00	17.06	166.43	3,463.44	-864.40	180.13	881.99	1.94	-1.58	3.68
3,701.00	14.06	170.81	3,554.95	-889.34	185.24	907.43	3.39	-3.16	4.61
3,793.00	12.13	169.18	3,644.56	-909.87	188.84	928.26	2.14	-2.10	-1.77
3,885.00	8.81	168.43	3,735.01	-926.27	192.07	944.97	3.61	-3.61	-0.82
3,983.00	8.75	166.31	3,831.86	-940.87	195.34	959.90	0.34	-0.06	-2.16
4,077.00	8,69	169,06	3,924.78	-954.79	198.38	974.12	0.45	-0.06	2.93
4,172.00	7.44	165.93	4,018.84	-967.80	201.24	987.42	1.39	-1.32	-3.29
4,268.00	6.63	161.43	4,114.11	-979,08	204.51	999.08	1.02	-0.84	-4.69
4,360.00	5.19	179.18	4,205.63	-988.28	206.27	1,008.44	2.51	-1.57	19.29

Survey Report

Company: Project: US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_MORGAN STATE 921-36A PAD

Site; Well: Wellbore:

MORGAN STATE 921-36H1CS
MORGAN STATE 921-36H1CS

Local Co-ordinate Reference:

TVD Reference:

North Reference:

Survey Calculation Method:

Well MORGAN STATE 921-36H1CS

15'RKB+4923'GL @ 4938.00ft 15'RKB+4923'GL @ 4938.00ft

True

Minimum Curvature

Design: MOF	RGAN STATE 9	21-36H1CS		Database:			edmp	<u> </u>	<u></u>
Survey									
		그 글 걸하다.	Vertical			Vertical	Dogleg	Build	Turn
Measured Depth	e de la companie de l		Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
	Inclination	Azimuth	(ft)	(ft)	er a far a fat filler i dell'a	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
<b>(ft)</b>	(°)	(°)		(nd)	(ft)		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
4,455.00	4.75	176.31	4,300.27	-996.50	206.58	1,016.60	0.53	-0.46	-3.02
4,550.00	4.19	173,18	4,394.98	-1,003,87	207.25	1,023.99	0.64	-0.59	-3.29
4,644.00	3.81	170.18	4,488.75	-1,010.36	208.19	1,030.54	0.46	-0.40	-3.19
4,739.00	3.44	169.06	4,583,56	-1,016.27	209,27	1,036.55	0.40	-0.39	-1.18
4,833.00	3.19	168.81	4,677.41	-1,021.60	210.31	1,041.98	0.27	-0.27	-0.27
4,928.00	2.88	169.31	4,772.27	-1,026.54	211.26	1,047.01	0.33	-0.33	0.53
5,022,00	2,75	166,93	4,866.16	-1,031.06	212.21	1,051.62	0.19	-0.14	-2.53
5,116.00	1.31	186.56	4,960.10	-1,034.32	212.60	1,054.90	1.68	-1.53	20.88
5,211.00	0.38	296.43	5,055.09	-1,035.26	212.19	1,055.76	1.56	-0.98	115.65
5,305.00	0.31	272.43	5,149.09	-1,035.11	211,66	1,055.53	0,17	-0.07	-25.53
5,400.00	0.25	254.56	5,244.09	-1,035.16	211.20	1,055.50	0.11	-0.06	-18.81
5,495.00	0.23	198.31	5,339.09	-1,035.31	210.97	1,055.62	0.22	-0.13	-59,21
5,589.00	0.13	177.56	5,433.09	-1,035.67	210.95	1,055.97	0.21	0.19	-22.07
5,684.00	0.56	178.18	5,528.08	-1,036.39	210.97	1,056.69	0.26	0.26	0.65
E 770 00	0.60	470.40	E 600 00	-1,037.36	211.08	1,057.66	0.12	0.07	-8.51
5,778.00	0.63	170.18	5,622.08		211.34	1,057.88	0.12	0.19	-5.79
5,873.00	0,81	164.68	5,717.07	-1,038.52					
5,967.00	1.00	157,06	5,811.06	-1,039.92	211.84	1,060.30	0.24	0.20	-8.11
6,062.00	0.81	190.68	5,906.05	-1,041.34	212.04	1,061.74	0.58	-0.20	35.39
6,156.00	1.00	37.68	6,000.04	-1,041.34	212.41	1,061.81	1.87	0.20	-162.77
6,251.00	0.81	333.43	6,095.03	-1,040.09	212.62	1,060.60	1.03	-0.20	-67.63
6,349.00	0.50	339.68	6,193.03	-1,039.07	212.16	1,059.52	0.32	-0.32	6.38
6,439.00	0.13	317.56	6,283.03	-1,038.62	211.96	1,059.05	0.43	-0.41	-24.58
6,534.00	0.31	192.81	6,378.03	-1,038.79	211.83	1,059.19	0.42	0.19	-131.32
6,628.00	0.50	179.18	6,472.02	-1,039.45	211.78	1,059.84	0.23	0.20	-14.50
6,723.00	0.81	169.31	6,567.02	-1,040.53	211.91	1,060.92	0.35	0.33	-10.39
6,817.00	1,02	292,62	6,661.01	-1,040.86	211.26	1,061.14	1.72	0,22	131.18
6,912.00	0.69	279.81	6,756.00	-1,040.43	209.91	1,060.51	0.40	-0.35	-13.48
7,006.00	1.00	312.18	6,849.99	-1,039.79	208.75	1,059.69	0.59	0,33	34.44
7,101.00	0.75	316.18	6,944.98	-1,038.78	207.70	1,058.53	0.27	-0.26	4.21
7,195.00	0.19	352.81	7,038.98	-1,038.18	207.26	1,057.87	0.65	-0.60	38.97
7,193.00	0.18	47.56	7,133.98	-1,037.81	207.47	1,057.54	0.33	0.20	57,63
	0.36	108.43	7,133.98	-1,037.78	208.24	1,057.63	0.64	0.33	64.76
7,384.00			7,227.97 7,322.96	-1,037.76 -1,038.48	209.56	1,057.63	0.52	0.46	15.53
7,479.00	1.13 0.38	123.18 82.43	7,322.96 7,416.95	-1,038.48 -1,038.94	210.65	1,058.55	0.93	-0.80	-43.35
7,573.00	0.36	02.43	7,410.90	-1,030.94	210.03	1,009.10	0.33	-0.00	-40.00
7,668.00	0.69	88.68	7,511.95	-1,038.89	211.53	1,059.24	0.33	0.33	6.58
7,762.00	0.75	293,68	7,605.94	-1,038.63	211.54	1,058.99	1.50	0.06	-164.89
7,857.00	0.44	270.31	7,700.94	-1,038.38	210.60	1,058.59	0.41	-0.33	-24.60
8,235.00	1.81	160.81	8,078.88	-1,044.01	211.11	1,064.23	0.53	0,36	-28,97
8,329.00	1.69	90.43	8,172.84	-1,045.42	212.99	1,065.92	2.15	-0.13	-74.87
8,424.00	1.94	29,68	8,267.80	-1,044.03	215.18	1,064.90	1.95	0.26	-63.95
8,518.00	1.88	40.31	8,361.75	-1,041.47	216.97	1,062.65	0.38	-0.06	11.31
8,613.00	0.75	133.43	8,456.73	-1,040.71	218.43	1,062.13	2.17	-1.19	98.02
8,707.00	1.13	148.18	8,550.72	-1,041.92	219,36	1,063.47	0.48	0.40	15.69

Survey Report

Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N UINTAH\_MORGAN STATE 921-36A PAD

Site: Well:

MORGAN STATE 921-36H1CS

Wellbore: Design: MORGAN STATE 921-36H1CS MORGAN STATE 921-36H1CS Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well MORGAN STATE 921-36H1CS

15'RKB+4923'GL @ 4938.00ft 15'RKB+4923'GL @ 4938.00ft

True

Minimum Curvature

edmp

Measured		ANG SANGARAN Sangaran	Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(m)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)
8,896.00	1.31	175.31	8,739.67	-1,045.83	221.52	1,067.67	0.90	-0.27	35.11
8,991.00	1.44	163.81	8,834.64	-1,048.05	221.94	1,069.93	0.32	0.14	-12.11
9,085.00	1.44	167.18	8,928.61	-1,050.34	222.53	1,072.29	0.09	0.00	3.59
9,180.00	1.31	166.18	9,023.58	-1,052.56	223.06	1,074.56	0.14	-0.14	-1.05
9,274.00	1.38	161.68	9,117.56	-1,054.68	223,67	1,076.75	0.13	0.07	-4.79
9,369.00	1.44	158.56	9,212.53	-1,056.87	224.47	1,079.04	0.10	0.06	-3.28
9,463.00	0.81	173.68	9,306.51	-1,058.63	224.97	1,080.86	0.74	-0.67	16.09
9,558.00	0.88	186.06	9,401.50	-1,060.03	224.97	1,082.23	0.21	0.07	13.03
9,747.00	0.69	163.31	9,590.48	-1,062.56	225.14	1,084.76	0.19	-0.10	-12.04
9,936.00	0.81	149.18	9,779.46	<b>-</b> 1,064.80	226.15	1,087.13	0.12	0.06	-7,48
10,220.00	1.81	158.56	10,063.39	-1,070.70	228.82	1,093.38	0.36	0.35	3.30
10,543.00	2.06	155.68	10,386.20	-1,080.73	233.08	1,103.96	0.08	80.0	-0.89
LAST MWD S	URVEY								
10,605.00	2,06	155.68	10,448.16	-1,082.77	233,99	1,106.11	0.00	0.00	0.00

,		
Checked By:	Approved By:	Date: